



33, TOTHELL STREET, WESTMINSTER, LONDON, S.W.1

Telephone: WHitehall 9233 (12 lines) Telegrams: "Trazette, Park London"

BRANCH OFFICES

GLASGOW : 87, Union Street	Central 1646
NEWCASTLE-ON-TYNE : 21, Mosley Street	Newcastle-on-Tyne 22239
MANCHESTER : Century House, St. Peter's Square	Central 3101
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Annual subscription £3 10s. 0d. post free. Single copies, One shilling & sixpence
Registered at the G.P.O. as a newspaper. Entered as second-class matter in U.S.A.

Vol. 93]

FRIDAY, DECEMBER 22, 1950

[No. 25

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The Railway Wages Deadlock

THE court of inquiry, of which details are given elsewhere in this issue, set up by the Minister of Labour to resolve the existing railway wages deadlock is a strong team, combining judicial, high administrative and managerial, and industrial negotiating experience, and as such starts on its task with a great advantage. The Railway Executive offer of a wage increase, the conditions attached to this, and the reasons for them, were discussed in a recent issue of this journal. It seems clear that the Executive, in circumstances over which it has no control, has been reasonable and moderate. The allegation of Mr. J. B. Figgins, General Secretary of the N.U.R., in last week's issue of *The Railway Review*, that the attachment of conditions to the wage offer jeopardises the whole system of collective bargaining, is unreasonable. In its present financial position the Executive had no alternative; and it wished to cut the Gordian knot of protracted and complex negotiations, often involved with conflicting claims by the three railway unions, and to end a state of affairs unsatisfactory to all—and not least to underpaid railway workers, who may not share Mr. Figgins' preference for procedure where it involves "some delay in the commencement of negotiation." Another statement, that the Railway Executive must utilise the accepted negotiating machinery to the full, is illogical, for it was the unions which (understandably, perhaps) approached the Minister of Labour after their rejection of the Railway Executive

offer, instead of taking the next step in the procedure, of submitting their claims to the Railway Staff National Tribunal. "No self-respecting trade union" says Mr. Figgins, could tolerate dictatorship. Therein is the crux: there has been too much regard for self-respect, which seems to mean in this instance the unions' "face," and too little for the railwaymen's welfare and for that real self-respect which can still come from serving it in a statesman-like manner.

Transport Integration in Northern Ireland

BECAUSE the area served by the Ulster Transport Authority is small and compact—the longest road-haul is 110 miles and no point is more than two or three hours' journey from one of its five principal ports—individual merchants can more easily operate their own transport than elsewhere in Great Britain. Nevertheless, since Major F. A. Pope became Chairman of the Ulster Transport Authority in 1947, great strides have been made in integrating all forms of transport in Ulster. Although the size of the problem has been relatively less than in England, it has not been without its especial difficulties. Some of these, and the means being adopted to overcome them, were dealt with in an interesting paper by Major Pope to the Federation of Railway Lecture & Debating Societies (North Eastern Region) at York on December 12. He said it had been realised from the outset that for the first few years of the U.T.A., public transport would be operated at a loss. He would not forecast as to whether it could be operated eventually at a profit: it depended on so many indeterminable factors. New problems were continually arising to complicate the issue and some of the matters were outside the province of the U.T.A. and would have to be settled by the Government.

Trade Union Membership

NO change in their attitude to trade union membership on the part of the employed population of the United Kingdom in 1948-49 is shown, rather belatedly perhaps, in the last issue of the *Ministry of Labour Gazette*; total union membership, which is that of all organisations of employees, including salaried and professional workers, was 9.26 million in December, 1949, against 9.3 million a year before. The apparent fall during this one year of 6 per cent. in total membership of the "railways" group of unions seems to vary directly with the numbers employed; though without an analysis of the union membership of London Transport Executive employees, no conclusion can be drawn as to a change in the percentage of railway unions. The "railways" group of unions was fourth in size of membership, after, in that order, the "general" (including the vast Transport & General Workers Union and the National Union of General & Municipal Workers), the "metal manufacture" (including engineering, shipbuilding, electrical goods and vehicles), and the coal mining groups of unions. Compared with 1939, membership at the end of last year was up by 56 per cent., income by 70 per cent., and funds by 160 per cent., the last amounting to £22 million.

Accidents to Railway Servants

L.T.-COLONEL G. R. S. WILSON, Chief Inspecting Officer of Railways, in his annual report for 1949, reviewed at length in this issue, when considering that year as a whole laid stress on the ever important question of reducing the number of accidents to railway servants, of whom over 200 were killed in "movement" and "non-movement" accidents, as distinct from "train accidents," in that period. Although the pre-war level of safety in railway employment has been restored "no one would suggest" says Colonel Wilson "that it should not or could not be materially improved." He emphasises that the Railway and London Transport Executives have the question very much at heart, and that active steps are being taken, not only to extend and co-ordinate established educational methods, but also to study practice and results obtained abroad. New safety literature is being issued

to the grades concerned, dwelling on the best methods of avoiding risks, especially when at work on, or passing along, the track. "Accidents to men working or walking on the line, in shunting yards, running sheds and elsewhere" says the report, "should not be regarded as inevitable by anyone," and provided there is continuous and systematic attention to the question at all levels he feels that "a considerable improvement can be made on present and pre-war records."

R.O.D. Annual Dinner Resumed

ON Friday last the eighteenth annual Officers Reunion Dinner of the Royal Engineers (Railway Operating Division) was held at the Transportation Club, London. The seventeenth dinner took place in November, 1938, and a resumption of these functions had been deferred because of the war and the difficulty of re-commencing them since hostilities ended. A number of those who had attended regularly the functions held during the wars had expressed the desire for the revival of the dinner. Lt.-Colonel V. M. Barrington-Ward presided, and among those who attended were Captain J. Clubley Armstrong, Lt. E. F. Blackwell, Captain F. L. Castle, Captain H. W. Crosthwait, Captain B. H. Harper, Captain F. Horler, Major J. L. M. Moore, Major H. E. Morgan, Captain M. D. Robinson, Major E. W. Rostern, Colonel K. Speir and Brigadier W. G. Tyrrell. The proceedings at the dinner were informal. After the loyal toast, Brigadier Tyrrell proposed "Absent Friends" and tribute was also paid to Colonel Speir for organising the dinner, which it was hoped would become an annual event once more.

Institute of Transport: Annual Report

IN the report of the council of The Institute of Transport on the work of the Institute for the year ended September 30, 1950, there is a reference to the reduction in the number of standing committees to seven, which was foreshadowed in the last annual report. The council records its high appreciation of the work of the chairmen and members of these committees during the year and of the vigour of branch activities at home and abroad. There has been a continued growth of membership and the net increase over the past twelve months was greater than in the previous year. There are now 2,661 corporate members of the Institute and 6,094 non-corporate members as compared with 1,886 and 3,167 respectively in 1939. The number of entries for examinations was again high. During the period under review expenditure exceeded income by £48 as compared with £1,768 for the previous twelve months. Again the council offers its warm thanks to the transport press for the help received throughout the year. There has been a continued flow of contributions to the Premises & Development Fund and amounts given and promised stand at over £72,000 towards the £100,000 target set.

Lower Fluorescent Lighting Costs

EFFORTS have been made for some time to simplify the circuits used for fluorescent lighting by reducing the number of auxiliaries required, thus cutting installation costs. Two new systems, recently introduced by different manufacturers, use filament lamps in place of chokes to stabilise the current, and dispense with the usual starters and capacitors for power factor correction. The ballast lamps provide a certain amount of light as well as being a very cheap form of stabiliser, and the combination of tungsten and fluorescent lighting has a quality that some may find more acceptable than fluorescent alone. This consideration balances a slightly lower light output per watt. For large workshops and similar installations the standard circuits no doubt will continue to be favoured, but the new systems are of interest for the many kinds of offices on railway premises in which fluorescent lamps are used, particularly when these are frequented by the public.

Reducing Freight Damage Claims

A DETERMINED attempt by the Louisville & Nashville Railroad, U.S.A., to reduce its losses in meeting claims for damage to "less-than-carload" freight shipments has had highly successful results. In three years, from 1947 to 1950, claims have diminished by 50 per cent. in number and 51 per cent. in value. This excellent showing is attributed first to a planned programme for claims prevention administered directly by the operating department; to the provision of appliances, such as removable bulkheads for wagons, for assisting in damage-free stowage; to the compilation of records which indicate the source and nature of damage; and to the promotion of rivalry among the principal freight stations in attaining freedom from damage claims. One of the most important factors in the improvement has been the "unloading record" which is prepared by 400 freight stations in respect of every wagonload of less-than-carload freight received. Of this statement, prepared in triplicate, one copy is retained by the receiving station, one copy goes to the Assistant Superintendent of Transportation, and the third copy to the sending station; the first and third copies help in locating and correcting persistent loading failures, while the Superintendent's copy is an aid to general supervision. On the L. & N. the claims prevention personnel, previously under the Law Department, has been transferred to the Operating Department; its six regional supervisors, with the chief supervisor, spend their time in freight stations watching for bad loading and handling conditions and in the advising of staffs as to improved methods.

Proposed Vancouver-Alaska Railway

IN our March 24 issue we mentioned a proposal for embodying the Canadian Pacific Great Eastern Railway in a great trunk railway to be constructed from the United States Pacific Coast to Alaska. Reports from America indicate that this scheme has now been carried a step further and refer to the intention of an American-Canadian syndicate to finance the project to an extent of over £350 million. Of this about one-third would be allocated to the purchase from the Government of British Columbia of the Pacific Great Eastern Railway and to its extension to Watson Lake on the Yukon border; the remainder would be required for developing the country traversed. Further extension from Watson Lake to Fairbanks in Alaska would be financed by the United States Government and the figure mentioned is £135 million. The length of the whole route is estimated to be about 3,300 miles. Obviously, the approval of the Canadian and British Columbia Governments would be necessary, but they would not be expected to provide capital for the scheme. Its value in opening up the northern areas of British Columbia and Alberta, the potential resources which were briefly indicated in our issue quoted above, would be immense. The line will also prove invaluable as a defence measure.

Unconventional Steam Locomotives

IS it worth while trying to improve the thermal efficiency of any type of steam locomotive above that of the best existing steam reciprocating types? Consensus of opinion seems to be "no" at the moment, which is not surprising if one considers labour and material situations, let alone the quality of coal put on tenders today. Yet within the past few years several novel steam types have been tried and put under way, and actually Germany led the way, refusing to allow wartime conditions to stultify progress. Apart from the extraordinary Henschel machine, taken to America, in which a two-cylinder V steam engine was attached to one end of each of four driving axles, most recent efforts have been turbine types, being confined to Germany and the States. Even here maximum thermal efficiency was scarcely afforded first attention, for, apart from a unit under construction at Krupps during the war, the difficulties of designing and maintaining a condenser for a turbine were considered to be rather too great, and such locomotives as the Pennsylvania and C. & O.

turbine types exhaust to atmosphere. On the other hand, they do enable rather more use to be made of high-pressure high-temperature steam than does the conventional reciprocating locomotive, and boiler pressures of 290-310 lb. per sq. in. and stop-valve temperatures of 750 to 900 F. have been used in actual locomotives, and 325 to 590 lb. and 840 to 930 F. proposed in schemes that got only a short way in building.

Locomotive Construction in India

In our issue of November 11, 1949, we referred to the agreement reached between the Government of India and the Locomotive Manufacturers' Association of Great Britain for the provision of technical aid to the Chittaranjan Locomotive Works. It is also part of the agreement that, until the completion of the Chittaranjan workshops, locomotives would be manufactured in this country and despatched to India as separate components to be erected as complete locomotives at Chittaranjan. As the building of the new workshops and the installation of plant developed, the number of components manufactured in this country for assembly in India would be decreased with a corresponding increase in the number of components manufactured in India. A production programme was laid down which called for three "WG" class engines being erected at Chittaranjan at the end of 1950, all parts being manufactured in the U.K.; the programme is ahead of schedule, the first "WG" class locomotive having been completed on November 1.

In 1951 it is programmed to produce 33 locomotives, 30 per cent. of the components being produced at Chittaranjan, while during 1952, it is proposed to produce 54 locomotives, 70 per cent. of the components being produced in India. Eventually the workshops will attain an annual output of 120 complete locomotives and 50 spare boilers, and it is expected that with the completion of the Government scheme, together with the Tata Locomotive & Engineering Company's locomotive project, India will be self-supporting once the deficiencies arising from the war years have been made good. An interesting illustrated booklet has been published by the Tata Locomotive & Engineering Co. Ltd., which deals in considerable detail with the history of the development of Tatargarh workshops, built originally in 1921 for the production of locomotives by the Peninsular Locomotive Co. Ltd. This company applied for protection to the Indian Tariff Board, but this was not, for various reasons, granted; the project was therefore abandoned in 1924.

The partially built factory was purchased by the Government of India for the construction of carriage and wagon underframes, but was closed in 1934 because of lack of orders. The workshops were taken over in 1940 by the Defence Department. On being relinquished by this department the Government of India entered into an agreement with Tata Sons Limited, as a result of which the Tata Locomotive & Engineering Co. Ltd. was formed. The existing works were added to and equipped with machinery suitable to the production of locomotive boilers. In addition, steam and diesel road rollers, carriage underframes, wagons and other products were undertaken, for which purpose a structural engineering shop has been erected and equipped with the necessary plant and machinery. An order for 94 "SGS" type boilers has been completed; part of the components were imported from the U.S.A. The manufacture of "YB" class boilers has also been undertaken. The company has also planned a major project involving steel, iron and non-ferrous foundries, to be commenced in 1952 or 1953, by which time it is expected that hydro-electric energy will be available. In the meantime larger steel castings, monobloc cylinders and locomotive bar frames will be imported.

The foundry has been designed for a monthly output of 1,200 tons of steel castings, 400 tons of iron castings and 50 tons of non-ferrous castings. The scheme also provides for a pattern shop and a machine shop equipped for proof machining steel castings and finish machining buffer castings and components. It is expected that the steel foundry output will be absorbed by the supply of 500 tons to

Chittaranjan locomotive works, and the remaining output being used for the firm's locomotive project and other products envisaged. The site selected is immediately outside the south-west boundary of the locomotive works and will be linked to existing B.N.R. sidings and with those of the Tata Steel Works at Jamshedpur, approximately four miles distant. The foundry scheme will involve an area of 1,118,660 sq. ft., of which 335,392 sq. ft. will be covered area, while the locomotive works will occupy 470,660 sq. ft. of covered area, with an additional covered area of 137,848 sq. ft. for other of the company's products. Planned locomotive output is 100 complete locomotives and 100 spare boilers a year. The works are expected to be completed towards the latter part of 1951.

Mr. Cuthbert Grasemann

In the top management of large-scale business, such as railways, various specialists from time to time are called in when something occurs or is decided on which requires their particular skill and experience. At intervals during the last 20 years Mr. Cuthbert Grasemann, who is now retiring from the position of Public Relations & Publicity Officer of the Southern Region, has attended on General Managers to carry out their wishes in respect of publicity. When not engaged in these more spectacular adventures, he has conducted with great skill the publicity work of the Southern Railway and more recently of the Southern Region.

Of all people in the railway service the publicity man probably has the most thankless job. To begin with, the work itself is largely making bricks without straw. Then everyone knows or thinks he knows something of publicity, and whilst obviously the "boss" must have the final say, it is one of the trials of this particular job that there are often too many cooks to produce good work. Nevertheless, Mr. Grasemann, who has a strong artistic temperament, has met all the calls made on him. On the other hand, it has long been recognised that artists do not easily conform to the restrictive routine of business life, and Mr. Grasemann has been no exception; his restlessness, vitality and energy have made him a definite personality, not only amongst his publicity colleagues (who often have had some difficulty in keeping track of him!) but in the railway service generally.

Looking back over the last 20 years, one recalls Mr. Grasemann appearing at various times of stress in four-group affairs. A recent example of his art was the railway civil engineering exhibition he laid on in London last May. No one could have done it better. In his work for the Southern Railway he was fortunate in that Mr. John Elliot was Deputy General Manager. It is most helpful, though sufficiently rare to be remarkable, if the top management is experienced in publicity methods. Mr. Elliot writes of his old colleague:

"When the late Sir Herbert Walker told me, in 1929, that I had to find a successor in my job as Public Relations & Advertising Officer, I recommend to him 'young' Grasemann (the son of a former colleague at Euston), then Assistant Operating Superintendent in the Western Division at Exeter. I had known for some time that he would like a change; that he had a flair for art and publicity and was a hive of energy."

"I have never been sorry for that choice. 'C.G.' has for twenty years infused the whole S.R. sales and publicity organisation with his own enthusiasm. He has made friends by the hundred amongst civic authorities and the Press, local and national."

"His use of films for railway publicity was original and far reaching. His long experience, his knowledge of his job, his blazing impatience and, above all, his loyalty to his chiefs and brother officers, will long illumine the Southern records. Waterloo without 'C.G.'—a strange silence!"

All who know him, and especially his public relations and publicity colleagues, extend to Mr. Grasemann their best wishes in his retirement.

A. J. P.

Colonel Wilson's Annual Report

FOR the third time since the appointment in 1840 of Inspecting Officers of Railways—the first of whom, Lt.-Colonel Sir Frederick Smith, held the title of Inspector General of Railways—a calendar year, 1949, has passed without a passenger being killed in a train accident on the railways of this country, the two previous occasions on which this result was achieved being 1901 and 1908, although there have been other years in which the figure has been extremely small, as in 1925 and 1930, each showing but one fatality under this heading. Lt.-Colonel G. R. S. Wilson, Chief Inspecting Officer of Railways, in his annual report for 1949, which was referred to briefly in our November 3, 10 & 17 issue, characterises that year with good reason as "outstanding." When the very large number of people carried every year by rail is taken into consideration—and it would take over 13 years day and night to count the number of passenger journeys originating in 1949—and is compared with the conditions met with in so many other circumstances it is seen that the risks run by the railway traveller are to all intents and purposes practically negligible. Nevertheless public interest is always stirred by the circumstances of any rail mishap, often far more than it is by many other types of accident, partly no doubt from the very fact that to come to harm on the railway is such a rare thing. Of course, this is at times attributable to the good fortune of the

1871, requiring notification of all accidents on passenger railways, and such as involve fatality or injury on railway premises, continues as before, as do the formal inquiries carried out by the Inspecting Officers under the Minister's Order, where such appear to be called for by the circumstances of the case.

The report under notice is based on arrangements restored on January 1, 1946, after modified requirements in force during hostilities. The table reproduced below, analysing the various causes of train accidents, shows that of the total of 1,176, 373 were collisions and 236 derailments; 386 were cases of running into obstructions (including 137 cases of animals on the line), with 127 fires in trains and 54 miscellaneous accidents. Failure of train crews was responsible for 140 collisions and 49 derailments, while signalmen were answerable for 34 and 14 respectively; 12 collisions were brought about by irregular block working. These 1,176 accidents resulted, as stated, in no fatality to a passenger, but did regrettably cause the deaths of six servants and six other persons. The figures for 1948 were 39 passengers, 14 servants, and 21 other persons.

Eighteen Formal Inquiries

Although no death of a passenger in a train accident fell to be recorded in 1949, it was found necessary to hold 18 formal inquiries into such accidents during the year, the reports on which, generally with an explanatory dia-

	Collisions	Derailments	Running into Obstructions	Fires in trains	Miscellaneous	Total
1. Failure of train crew (including guard)						
(a) Passing signals at danger	31	13	19	—	—	63
(b) Other irregularities or want of care	109	36	27	—	1	152
2. Failure of signalman						
(a) Irregular block working	12	2	—	—	—	14
(b) Other irregularities or want of care	22	12	5	—	—	39
3. Failure of other operating staff	66	15	63	3	14	161
4. Failure of train crew and/or signalman and/or other operating staff	53	32	19	—	5	129
5. Faulty loading	—	13	1	—	—	14
6. Technical defects						
(a) Engines	—	13	2	—	2	18
(b) Vehicles						
i. Drawgear	3	18	1	—	—	22
ii. Other items	6	29	—	2	3	41
(c) Track or signalling apparatus	2	34	1	—	1	56
7. Other causes:						
(a) Snow, landslides, floods	—	2	—	—	—	12
(b) Animals on the line	—	—	137	—	—	137
(c) Misconduct of the public	38	1	39	16	13	106
(d) Miscellaneous	29	16	52	106	15	218
Total ...	373	236	386	127	54	1,176

circumstances of the moment, as in one particular case in 1949 where a very little difference in the conditions would certainly have resulted in considerable loss of life.

It may be as well to emphasise once again that transfer of the railways to the State has not affected the status of the Inspectorate. The jurisdiction of the Minister of Transport as regards safety matters remains the same, and the duties, responsibilities, and independence of the Inspecting Officers are unaffected by the change. No passenger railway, or part of it, fixed works or electric traction, may be brought into use without the approval of the Minister, and large installations, as well as new methods of signalling, are also included in this rule. These conditions were more particularly defined by the Road & Rail Traffic Act, 1933, in continuance of the requirements laid down in earlier legislation, which continue to be effective. The Minister is further empowered by the Railway Employment (Prevention of Accidents) Act, 1900, to make rules with the object of reducing or removing the dangers and risks incidental to railway service, and such have been made from time to time. In addition, the Railways Act, 1921, empowered the Minister to require or authorise measures of standardisation, but he has no jurisdiction over the construction of rolling stock (except on tube lines), the maintenance of permanent way or signalling equipment, or the qualifications of operating personnel. The reporting of accidents to the Minister, under an order made in 1945, derived from authority conferred by the Act of 1900, previously mentioned, and the Regulation of Railways Act,

gram, have appeared in summarised form in these pages. The leading features of these were as follow:

At Loughborough on January 9, 1949, a freight train was derailed at an engineering site where rails had been removed, and the engine overturned down an embankment. The driver, who was killed, had failed to keep the train under sufficient control on a falling gradient, and there had been failure also on the part of a permanent way inspector to protect the gap in the correct manner. At Glasgow Cross on January 31, 1949, a train on an underground section of line passed four signals at danger, after seeing the distant at caution, and collided with the preceding one. There was no failure of block working, and the accident was attributable to a serious lapse on the part of an experienced driver, probably due in part to the difficulty of seeing oil lit lamps in ill-ventilated tunnels. An unsatisfactory standard of attention to the lamps was brought to light by the case and an unusual wrong side failure of a light repeater indicator. As an interim measure all signals are being converted to electric lighting and detonator placers installed at all signal boxes.

At Trowse Station, Norwich, on February 3, 1949, occurred a collision caused by a train having to leave the Thorpe terminus against the starting signal, which could not be cleared for it as the engine was on points just ahead unable to be bolted, and then, in consequence of the signalman forgetting to reverse a crossover road, travelling up the down line for $\frac{1}{2}$ mile and meeting a standing

goods train head on. The signalman was primarily responsible, but the one in the next box should have noticed that the train was on the wrong line, although had any one of the four trainmen been alert they could have averted the accident. At Hensall on the night of March 2, 1949, an engine propelling a van collided with a tank lorry at a crossing, resulting in overturning. There was a good deal of traffic on the road, and the gatekeeper had to exchange bell signals with the signalman to show that the gates were closed before a train movement was permitted. There was conflict of evidence on this matter. A code may not have been sent, or, more probably, was sent and misinterpreted. Signals interlocked with the gates are being provided and the code altered to reduce the possibility of misunderstanding a bell signal. An unusual type of accident occurred at Douglas Park on May 26, 1949, when an express, after receiving a clear distant signal, found the home signal against it and became derailed at loop facing points, which clearly had been operated just as the engine reached them. The signalman, a young man who proved to be unreliable, denied all knowledge of having done this, but there was no doubt that he moved the points or knew who had done so. It was recommended that the pre-war practice of requiring references as to the character of new entrants to the service should be resumed, especially for prospective signalmen.

The fire in an express at Penmanshiel Tunnel on June 23, 1949, also was remarkable in that not only did the flames spring up and engulf two vehicles with extraordinary rapidity, but local circumstances most fortunately combined to enable the fire to be confined to them and casualties to be limited to seven persons injured, although two of these cases were serious. A clear cellulose lacquer had been used on the wooden corridor panels and the Joint Fire Research Organisation of the Department of Scientific & Industrial Research and Fire Officers Committee proved by tests that this was by far the worst material so far examined by them for rapidity of flame spread. This might have been caused by a lighted match, say, or cigarette end. The batch of coaches on which this particular finish had been used were at once taken out of service and it was recommended that no material should be used in future in passenger stock without being subjected to the standard Spread-of-Flame Test, and that fire risks generally should be constantly borne in mind in design and construction, taking advantage of the specialised knowledge of the organisation referred to.

A derailment in Merstham Quarry Cutting on a hot afternoon on June 27, 1949, of a fast electric train was attributed to the ganger not appreciating the danger of disturbing the track in the way he had done, despite strict instructions covering precautions to be taken in hot weather. The inspector was criticised for failing to ensure the orders were understood and obeyed. It was recommended that the research into strength of different types of ballast, instituted after the Wath derailment of May 8, 1948, should be extended to investigate rail stresses in hot weather, and whether the smoother sleeper-beds produced by modern methods of measured shovel packing affect lateral resistance to any appreciable extent. Another level crossing accident took place at the Hardwicke occupation crossing on June 28, 1949, when a motorcar was run down and the locomotive bogie became derailed. The occupant of the car should have satisfied herself that it was safe to cross, but was encouraged to move by the action of another person opening the gates.

At Chester, in daylight and clear weather on July 4, 1949, the driver of a passenger train, admitted by calling-on arm to an occupied platform, a movement that has to be allowed at this location, failed to exercise sufficient care and struck the train ahead. At London Bridge on July 24, 1949, a driver of a light engine ran by a colour-light signal at red, and met an oncoming electric train at a diamond crossing. Careful consideration of the circumstances and the signalling controls showed that the driver must have been mistaken in thinking he had seen the signal at yellow. Another case of overlooking a signal, in this instance a semaphore, took place at Epsom on July 28, 1949, when an electric train started irregularly from a

platform, and although a detonator was exploded, could not be stopped before meeting another crossing its path. The layout precluded the provision of a trap or crossover, but the signal and detonator have been moved back to increase the overrun. At Euston on August 6, 1949, an empty train was routed in error into a platform occupied by one loading to leave. There was no track circuiting, though this has since been provided, and the experienced signaller who made the mistake was working under some pressure of traffic. The general renewal and modernisation of the signalling at this terminus are under consideration again.

On September 30, 1949, occurred a fatality to a fireman at Mangotsfield, whose head was struck by the open door of a banana van, while at Heighington on November 16 there was a collision between a passenger train and part of a goods train left in section, for which a signaller was primarily responsible. Another signaller failed to act as circumstances required, as did two guards on the goods train, and the case generally revealed considerable lack of discipline. Neglect to apply the regulation tests by trainmen led to a train of empties running away on the incline approaching Lime Street Station, Liverpool, on November 19, 1949, and crashing into the buffers there with destructive effects. It was found that the vacuum connection between the first and second coaches had not been made. At Strathmiglo eight days later a train carrying men to some engineering work plunged into a gap in the track and the driver was killed. The permanent way inspector had surprisingly forgotten to protect the work and had not taken steps to see that the driver knew exactly where it was. An accident resembling in most of its features that at Epsom occurred at Littlehampton on November 30, 1949, when an electric train started against the fixed signal and struck almost head on one coming in to another platform. There had been a curious forgetfulness on the part of the signaller in making lever movements intended to permit the outgoing train to leave, and it was suggested that the lie of certain points should be altered to give additional security against such irregular departures. On a dark evening on December 9, 1949, a Continental express approaching Victoria terminus under clear signals collided with a light engine, the driver of which had thought a subsidiary signal was clear for him, but it was not. The engine was pushed slightly foul of another line and an outgoing electric train came in contact with it.

Another accident, by which two servants lost their lives, took place at Oakley Viaduct on October 4, 1949. A goods train, admitted in error under clear signals to a permissively worked "telegraph bell" section, ran into the one ahead, and the engine and several wagons plunged off the structure. A peculiar feature of the case, and one surprising to many, was that this "telegraph bell" working had to be effected by the same bell as served for the block telegraph on the parallel passenger lines. Other mistakes under such working led to block instruments being recommended, and certainly the application of separate bells wherever they did not exist under this system, with provision for actual offering and accepting of trains, not provided for by the old "telegraph bell" rules.

In addition to these accidents many others were dealt with by correspondence by the Inspecting Officers, and in consultation with the railway authorities. The report mentions eleven of these, exhibiting features of some interest, as in the case of a steam-hauled train on the widened lines between Kings Cross and Farringdon Street, where failure of the engine trip was suspected. The locomotive had stopped a few feet past a stop signal, the section ahead being occupied in actual fact, and then the driver accepted the green aspect of a repeater signal ahead. It is now recognised as correct practice to control repeater signals to yellow when a train passes them and the extension of this is under consideration now, with provision of track apparatus to test the trip-cocks of steam trains using London Transport lines. Another special case was a derailment at Bethnal Green where power points in a new signalling installation were moved by a false feed applied accidentally during testing; special precautions against repetition of such a thing are being generally introduced.

"The progressive improvement," states the report, "during the last two years in the total figures of accidents to trains is noteworthy and encouraging, though collisions and derailments again exceeded pre-war averages. Collisions, at 373, were eleven more than in 1948, but there were 40 fewer derailments, and the number of train accidents at level crossings fell from 212 to 165 as compared with an average of 163 for the 15 years 1925-39. . . . Failures of engines and rolling stock, though they have declined progressively since 1946, are still more than pre-war; the rise in the number of broken rails reported during 1949 may have resulted from the more precise instructions issued by the Railway Executive in 1948 to co-ordinate the basis of reporting in all Regions. Other failures of track and structures are less than half those in 1948, a year of exceptional floods. The total number of failures, 4,062, has now declined below pre-war level, and the improvement is due in the main to the marked reduction in coupling failures resulting from the withdrawal of a large number of old and obsolete wagons, mostly from the former private owners' fleet." Regarding coupling apparatus, the chief liability is still stated to be drawgear weakness, but in goods trains the proportion of failures fell somewhat, reflecting the improved standard of stock in that respect. Again in 1949 no accident resulted from the division of a passenger train.

Level Crossings

It is of interest to note that there are 4,080 public level crossings with gates, 370 without them, and some 22,600 occupation crossings. There are also some footpath crossings. The total number of accidents was 200 compared with 251 in 1948 (1935-39 average 212), of which 165 were train accidents, eight with fatal results, involving collision with gates or vehicles at public road and occupation crossings, as compared with 212 in 1948, and the

report gives details of certain cases in addition to those referred to above. One unusual case was that at Bosham, where a gatekeeper at a crossing properly equipped with signals put them to danger and opened the gates to the road in the face of a train approaching at high speed. In another case someone opened the gates without the knowledge of the crossing keeper, who had failed to lock them, and was seriously injured when a train collided with the gates, while in another a foolhardy motorcyclist, though warned on previous occasions, pushed through the wicket and was struck by a train. At the location in question locking of the wickets was not practicable. The total number of casualties was 83 compared with 92 in 1948 (average for 1935-39 was 85), and of the nine which occurred to occupants of road vehicles four were due wholly or primarily to their own misconduct. Says the report: "The risk of accident at a properly equipped and guarded level crossing is negligible compared to other risks of the road." Commenting generally on the question Colonel Wilson says: "Improvements to safety arrangements at public road crossings are carried out from time to time when investigation shows that these are necessary. . . . At occupation crossings, where with some exceptions protection is confined to field gates opened by road users, safety of rail traffic as well as their own depends primarily on their care and vigilance. The large majority (21,000) of such crossings are still of agricultural field-to-field and farm-to-road type, and are used mainly by persons acquainted with the local conditions, but the risk of serious derailment is no longer negligible with the increasing use of motor vehicles about the farm and countryside, including heavy lorries and tractors." The growing risks at these locations have caused "the whole difficult question of safety" thereto to be remitted by the Minister of Transport to the British Transport Commission and its report has now been received. Lt.-Colonel Wilson stresses the point that the

CASUALTIES IN TRAIN AND MOVEMENT ACCIDENTS

Total	Killed						Injured						All casualties per million train miles									
	Total	Passenger			Railway servants			Other persons			Total	Passenger			Railway servants			Other persons				
		Killed	Injured	Other	Killed	Injured	Other	Killed	Injured	Other		Killed	Injured	Other	Killed	Injured	Other					
1915 1919	6,122	616	174	341	101	5,506	1,731	3,600	175	18	16.5											
1920 1924	6,639	407	92	248	67	6,231	2,577	3,518	136	11	17.0											
1925 1929	7,526	368	91	210	67	7,158	3,733	3,267	158	9	18.0											
1930 1934	7,440	308	74	183	51	7,132	4,394	2,592	146	7	17.0											
1935 1939	8,376	338	86	198	54	8,038	5,342	2,576	120	8	18.0											
1940 1945	1,222 (1)	477	141	254	82	745 (1)	256 (1)	455 (1)	34 (1)	2	19 (1)											
1946	9,529	413	120	236	57	9,116	5,691	3,281	144	10	22.6											
1947	9,203	409	148	218	43	8,794	5,871	2,785	138	11	22.9											
1948	8,683	340	87	191	62	8,343	5,554	2,678	111	9	20.9											
1949	8,651	285	44	188	53	8,366	5,640	2,625	101	7	20.2											

(1) Serious injuries only

ACCIDENTS, EMPLOYMENT AND OPERATING STATISTICS

Train accidents	Failures of rolling stock or permanent way	Class I			Passenger journeys originating (incl. season tickets)			Freight-tonnage originating (excl. free-hauled)			Miles operated			Passenger-miles (estimated)		
		Total	Railway servants (March)	Total	Main line railways	London Transport	Ton-miles (incl. free-hauled)	Ton-miles (excl. free-hauled)	Train	Shunting	Other	Main line railways	London transport: Train	Main line railways	London Transport	
		Number	Thousands													
1920 1924	1,003	11,153	699 (2)	1,848			303	17,457	369	121	28					
1925 1929	941	9,141	679	1,661			298	17,562	401	123	29					
1930 1934	796	5,772	602	1,612			270	16,060	416	113	27					
1935 1939 (1)	745	4,149	592	1,733 (3)	1,255 (3)	478 (3)	281	17,230 (3)	412	115	29	32	18,993 (4)	2,297 (4)		
1940 1945 (1)	387	160	604	1,661	1,210	451	288	23,844 (5)	356	124	37	26 (6)	33,191 (7)	2,608 (7)		
1946	1,237	5,162	652	1,855	1,266	589	262	20,639	373	116	36	30	29,231	3,029		
1947	1,388	4,679	660	1,714	1,140	574	257	20,190	355	113	35	31	23,015	3,075		
1948	1,293	4,398	703	1,646	996	650	276	21,502	366	112	41	34		25,093		
1949	1,176	4,062	648 (8)	1,634	993	641	280	21,848	381	109	41	34		24,958		

(1) Having regard to the altered basis under the Modification Order, fewer accidents were reportable and only serious damage is included as from September 1, 1939, to December 31, 1945. The comparison is unchanged as regards traffic, movement and staff employed.

(2) Four years, 1921-1924

(3) Four years, 1935-1938

(4) For year ended August, 1939, only

(5) Estimate for Main Lines—1942-1945

(6) Loaded only

(7) Three years, 1943-1945

(8) Railways and London Transport Executives' Staff only

1949 figures should not be allowed to produce a false sense of security or "distract attention from the urgent need to improve conditions, at any rate at those crossings where the risks to rail and road traffic are more serious."

Movement Accidents

The incidence of fatalities in "Movement" type accidents during the past three years has fallen below pre-war level, but comparison with 1948 does not, states the report, suggest that improvement is progressing. "Injuries to passengers show a rising trend, but the great majority represent minor cases and the increase in the numbers reported during the last two years does not necessarily reflect a corresponding increase in the number of minor accidents." Mishaps to passengers are largely attributable to their own want of care and the only wonder is that they are not infinitely more serious. An accident at Laindon and Pitsea, in which a child was killed, led to stricter definition of the responsibility of drivers to stop when the communication chain is pulled, though in this particular instance it would have made no difference if the train had stopped at once.

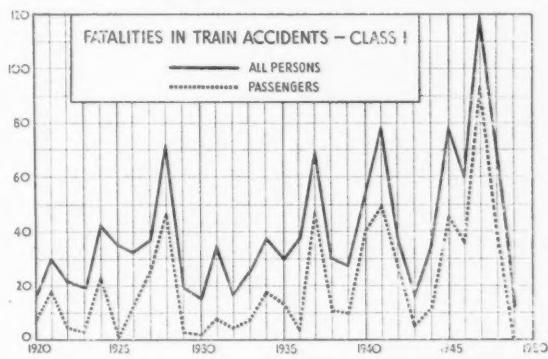
In the case of railway servants, 182 were killed and 2,532 injured in 1949 in this class of accident. The figures for staff working on the line were 53 deaths and 129 injuries, all the fatalities and most of the injuries being caused by engines and trains striking men. The report reviews at some length the various circumstances coming into this category of accidents, such as inadequate protection, lookout man at fault, failure to act correctly after warning, want of individual care or lack of care on the part of others and so on, and remarks that: "Accidents to men through being struck by trains while at work on the permanent way continued to receive close attention, and in every case a formal inquiry was held and the site visited in order that all the circumstances might be taken into consideration with a view to guarding against a recurrence. It is satisfactory to find that, under 'protection inadequate,' the improvement which was so noticeable in 1948, has been maintained, although the general shortage of manpower must at times have placed the ganger or man in charge in a difficult position, when deciding whether or not to appoint a lookout man." We read further that want of individual care and failure to comply with rules, such as that requiring a man to move clear of all tracks unless he can distinctly see that he is in no danger, after warning is given, continues to play a large part in this matter and is naturally difficult to counteract. Colonel Wilson feels that, though collective approach requires special arrangements, "better education in safety matters is the only means whereby these accidents, many of which are inexcusable, may be reduced." He considers also that it is not enough to leave this to the gangers, whose whole experience is limited often to one length of line and whose own conduct is not always what it might be in this matter. The inspectors are in a better position but, like the gangers, they do not always appreciate that the safety of the men is as much their responsibility as that of the track, and the report records the opinion that "a prize length loses much of its credit if the gang has a bad record of accidents to its members."

Accidents to staff walking or standing on the line, or when proceeding to and from work, in turn involved many cases of failure to follow well-known safety rules or take the authorised route, laid down expressly for no reason but the staff's safety. In the case of shunting, many regrettable accidents have again to be recorded, attributable to failure to obey rules or take known and reasonable precautions. Reviewing these and certain other movement and non-movement accidents the report says: "Rules, notices, and appliances are provided to guard against dangers whenever possible, but it must rest mainly on the individual to take full advantage of them, though in some types of accident stricter supervision might have a beneficial effect." It is to be noted that there were no fatalities due to contact with electrical track equipment, but 31 men were injured. In 1948 there were 37 injuries and one fatality.

The report refers to the question, reviewed at length by

Sir Alan Mount in the previous year, of trespassers, chiefly children, coming in contact with live rails; in one case access to the line had been obtained by scraping a burrow under a high mesh fencing, which illustrates how great is the difficulty of preventing a determined and adventurous child from achieving its purpose of getting to the line, but "whatever is done, in the way of fencing"—says Colonel Wilson—"the most effective remedy lies in greater recognition by parents and others of their responsibility for preventing trespass on the railway by children in their charge." The average age of the children concerned in the 27 cases in 1949 was 6½ years; all but one were boys.

The report concludes by reviewing at some length the general features of the year and the progress made amidst many difficulties, in overtaking arrears of maintenance of track, rolling stock, signalling, and other equipment, and in introducing new and improved methods of operation, as in the case of the re-signalling of the electrified lines between London and Shenfield. Financial stringency is hindering signalling modernisation, but "the unification of management under nationalisation has facilitated the consideration of priorities with a country wide outlook. . . ." In this way improvements can be concentrated where most needed, but, it is emphasised, the good overall safety record for 1949 in no way lessens their desirability. Of the 1,176 train accidents 63 were attributed to signals not being obeyed, and it was considered that automatic train



Comparison of fatalities from 1920-1949

control of the warning type might have been effective in 25 cases. The trial of the new design of apparatus, combining the long-tried Western Region cab equipment with track inductor operation, as used on the Southend (*via* Barking) line, is proceeding between New Barnet and Huntingdon and 65 engines are being equipped in connection with it.

"Operation is becoming more efficient" says Colonel Wilson "as the condition of track and rolling stock improves, and, apart from ill fortune, there appears to be no valid reason why the good safety record of 1949 should not be maintained and improved in spite of the factors which are retarding progress in many directions. But whatever is done in the way of providing modern safeguards—and the maximum possible should be done with appropriate priorities according to traffic and other conditions—much will always depend on the men themselves and on their supervision and training. There are still too many accidents which could be avoided by ordinary attention to duty, including the faithful observance of simple safety rules and instructions. This is a question of morale and discipline which affects all grades of the staff and it continues to receive the attention it deserves. Good leadership and encouragement of the right outlook by careful training, tactful supervision, and clarity of verbal and written instructions are essential, but in the railway service where so many men have to work for long periods at a time without supervision, and often alone, the *self* discipline of individuals, which is perhaps its highest form, is of supreme importance to the safety of the public and of themselves."

LETTERS TO THE EDITOR

(*The Editor is not responsible for the opinions of correspondents*)

Named Trains

December 10

SIR.—The decision to name the 11.15 a.m. Paddington to Bristol and the corresponding 5.25 p.m. up from Bristol the "Merchant Venturer" will doubtless meet with the approval of many Bristolians. Unfortunately, the name is one that is well-known only locally and I doubt if users of the train who come from places other than Bristol would grasp its significance. I think therefore the best idea would be to have boards with the "Merchant Venturer" in slightly smaller letters and so allow the names of the principal stations served to be inserted in brackets below.

I think this also should apply to the present "Red Dragon," as in recent months I have met people who have asked the meaning of the title.

Yours truly,

J. F. BURRELL

80, Longmead Avenue, Bristol 7

streets of London, some of them not knowing they are doing it, and many more are so vaguely aware of it that they do not know which main line they are crossing.

Yours faithfully,

G. LEISER

10, Arkwright Mansions, N.W.3

[In the past, landowners or local authorities would often consent to a railway only if it were sufficiently screened from their gaze, and many high walls and fences alongside lines date from those days. Apart from such walls built to protect the public at danger spots, there are places where structural considerations demand a deep girder or high parapet. In 1949, the British Transport Commission profit on commercial advertising was £2,300,000, to which posters contributed substantially, and this source of revenue cannot be relinquished for a problematical advantage in publicity gained from the removal of hoardings. The railways often suffer from hoardings erected close to the line but not on railway property, which in the result blot out a view of the trains.—ED. R.G.]

Pre- and Post-War Excursion Fares

December 10

SIR.—Turning out some old papers recently I came across an L.M.S.R. excursion handbill for the period January-May, 1938. Among the travel bargains offered were Sunday trips from Euston to Manchester for 10s. 6d., and to Liverpool for 11s., the advertised facilities consisting of one train to Liverpool and two to Manchester each week. Comparing this with the December, 1950, excursion programme, one finds that the fares for these trips are now 23s. to Manchester and 25s. to Liverpool, and the resulting traffic is handled by a combined service to the two destinations running one Sunday in four.

Between Waterloo and Bournemouth the National Sunday League used to run trips before the war at a fare of 7s. 3d. Similar excursions were resumed under British Railways management in September, 1948, at a fare of 12s. Since then this service has required two trains each week even in mid-winter, and usually four and sometimes five trains during the summer, traffic on which is equal to that attracted by the N.S.L. trips before the war.

The difference in patronage between services whose fares have increased 120 and 65 per cent. respectively over pre-war seems to require no further comment.

Yours faithfully,

J. N. FAULKNER

53, Westfield Road, Surbiton

Coach Design

October 4

SIR.—In your August 25 issue, Mr. R. Bell, in his letter of August 19, draws attention to the fact that in America passenger business is going downhill, and that, therefore, the adoption of American standards in coach design would be no remedy for the decline of passenger traffic in Great Britain.

Apart from the recent reports that a number of specially-built comfortable new trains in America seems to have proved a great financial success in spite of the high initial costs, my idea which began this correspondence—originally as a reply to a letter on the limitation of railway speeds—was not at all directed to imitating any other country's designs. I drew attention to the essential difference in road and rail transport, the higher possible speed of rail-guided trains in contrast to physiologically limited speeds of hand-guided road vehicles now everywhere approaching their apparent maximum of a cruising speed of 50 m.p.h.

We had, until 1900, road transport at a maximum of 15 m.p.h., and rail transport 60 m.p.h. Now we have road transport up to 50 m.p.h., rail transport up to 100 m.p.h., and air transport 200 m.p.h. and beyond. Thus railways form the middle link between short-distance comparatively slow road transport and high-speed long-distance airborne traffic. This has to be considered when building new stock.

For long-distance rail traffic it will not do to try as before to pack people into rows of seats either in compartments or in open saloons which hardly ever are fully occupied. Instead, by making full use of the possibility of offering "space" which no road vehicle can afford, the coach should be divided into rooms with perhaps a little less seating capacity but highly increased comfort by providing "leg space" in divisions for, say four, eight, twelve people to choose from with standing room and collapsible seats near the end doors and with luggage space. No extra luxuries seem to me necessary beyond those already provided in our present otherwise extremely well arranged new coaches, apart from offering simple armchairs instead of benches.

The idea of "rooms" is not new. I prepared a design showing the kind of rooms many years ago, then for suburban stock, when I was employed by a firm which became the leading firm for the completely redesigned equipment for the electrified Berlin suburban lines of the German State Railways. As for certain reasons the special conditions required ample standing room near the

Invisible Railways

September 23

SIR.—The activities of train spotters are occasionally the subject of acid comment in the daily press, and there is no doubt good reason why stations should not be frequented by spotters. Probably these enthusiasts would just as readily do their spotting from suitable vantage points on public highways, but unfortunately the policy in the past appears to have been laid down expressly so that none but a rail traveller may look at a train. Bridges over railways have high walls, and railway bridges over roads have hoardings, with or without advertisements, but invariably unsightly. In some places the old companies must have gone out of their way to make their trains invisible.

Surely the publicity gained by allowing full view of a stretch of main line in urban areas would make up for the revenue which might come in from advertisement hoardings? People who do not now appreciate the beauty of railway lines and moving trains, or the intricate pattern of a siding, may soon do so if given the chance to see them.

I have found that people cross main lines daily in main

doors and segregation of seating space, this design was not adopted, though seriously considered by the authorities. It appeared later slightly modified on the New York underground system. The plans were published in an article in your issue of August 17, 1945.

Passenger coaches for long-distance trains, of course, need other arrangements. The main point is that neither compartment nor open stock in the old-established form meet the new requirements caused by the appearance of the motorcoach and private motorcar on the road as competitors in speed and comfort.

Yours faithfully,
W. JACOBSON

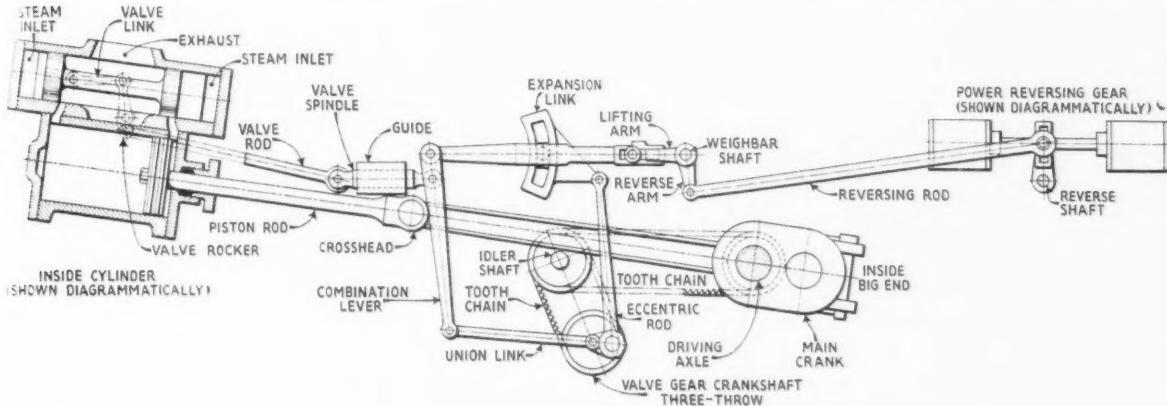
76, Elgin Crescent, W.11

Southern Region Pacifics

December 7

SIR.—With reference to the letter on Southern Region Pacifics on page 483 of your December 1 issue, I am appending a drawing of the valve gear fitted to these engines. An examination of it will enable any experienced, qualified, and unbiased locomotive engineer to form his own opinion on the matter.

May I call particular attention to the final drive to the



valve, by which any error due to chain slack, pin wear, and so on, is multiplied at least threefold in the valve events. Further comment is unnecessary.

Yours faithfully,
L. LAWRENCE

Surrey

Excursion Facilities

October 2

SIR.—The Chairman of the Railway Executive is reported in his review to the press of the winter train services as having said that, because of the limitations of marginal spending power, even more excursion facilities were being offered to appeal to those of modest means.

The programme from September 25 for this district, which covers a large area of Surrey and South London shows only one noticeable change—the postponement from 10 a.m. to 11 a.m. on Sundays of the starting time for all half-day excursion fares to the coast, and so on. Coupled with the shorter days of winter this can only discourage traffic. There may be reasons for doing this, but it certainly does not appeal to those of limited means.

A week later, on October 1, the new London fares scheme came into operation. This has had the effect of cancelling the special cheap evening and Saturday afternoon fares to London from outer suburban stations—a useful facility which helped to fill otherwise empty trains—and of adding appreciably to the cost of those day return tickets which were previously issued. The latter increase is probably due to the charging at standard rates

of "circuit mileage", which by long recognised practice had formerly been scaled down.

I am sure that Sir Eustace Missenden, with his long experience of commercial relations, did not intend to mislead, but if he wishes to keep the goodwill of the travelling public he should not allow his public relations advisers to give him material which cannot be substantiated in practice throughout the Regions.

Yours faithfully,
A. R. MORDAUNT

Mavis Croft, Chipstead

Railway and Resorts Combined Publicity

December 11

SIR.—As an old-timer I have read the article in your issue of December 8 with great interest. Resorts publicity goes back to periods long before the railway age; had it not been for Mrs. Farrow's discovery of healing waters in 1620, Beau Nash later in that century, and the Prince Regent—all aided by qualified and subtle medical advice—Scarborough, Bath and Brighton (in that order) would have been less known than they were to fashionable and cosmopolitan society in search of cures and lighter diversions.

With all acknowledgment to L.S.W.R. enterprise from

1913 onwards, it is due to the North Eastern Railway to remember what E. M. Horsley (whose early death in 1921 was a loss to railway publicity) did, under that company's management, to develop joint schemes with local authorities. At the beginning of the present century he encouraged and co-operated with an unofficial Scarborough Committee whose work was shortly afterwards taken over by the Corporation. In Edwardian days other joint schemes were in operation between the N.E.R. and many seaside and inland holiday resorts it served, Harrogate (in the pre-Crystal Palace days of Sir Henry Buckland) being an outstanding example of co-operative publicity.

Window displays formed a valuable medium not mentioned in your article. The N.E.R. made extensive use of them for the individual advertising of their resorts in its city offices in London, Manchester, Leeds, Bradford and elsewhere. Encouragement was also given to tourist agents to give displays of this character in their office windows.

I recall these schemes with happy memories too of my own associations with the late W. M. Teasdale and C. G. Dandridge (now Eastern Region Commercial Superintendent), both of whom did so much to raise the standard of railway publicity, in all its branches.

I should like also to pay tribute to my old friend Cuthbert Grasemann whose lecture inspired your article and who is shortly joining the retired ranks after an able and indefatigable railway career.

Yours faithfully,
FRANCIS GOODRICKE,
Formerly Assistant Advertising Manager,
L.N.E.R.

5, Hitchin Road, Stevenage

THE SCRAP HEAP

A Matter of Dignity

Most of the London railway termini have dignified names: Victoria, Paddington, Waterloo, and so on. The exception is Liverpool Street. Why should one of the most important stations bear the name of an insignificant street? I suggest that Bishopsgate would be more dignified, indicate the district, and commemorate one of the four original London gates.—From a letter to "The Evening News."

A Calendar Reform

A correspondent sends me a railway ticket issued at Hammersmith by London Transport for "Nov. 31." The date suggests the following emendation of the nursery rhyme:

Thirty days hath September,
April, June, and November—
But London Transport all alone
Gives November thirty-one.
"Peterborough" in "The Daily Telegraph."

The F.T. & O.P.R.

A £12,000 company has been formed to run a miniature railway in Battersea Park during the Festival of Britain. Directors are Mr. Phillip Shefras and Mr. H. N. Barlow, both in the entertainment business.

The railway will run for a third of a mile round the southern perimeter of the Festival Gardens. It has been designed by cartoonist Rowland Emett, has a gauge of 15 in. Coaches and locomotives will be in the true Emett

style. Capacity is 96 passengers. Cost of the fare has not yet been decided.

The railway will be called the Far Twittering & Oyster Perch Railway and there will be two stations.

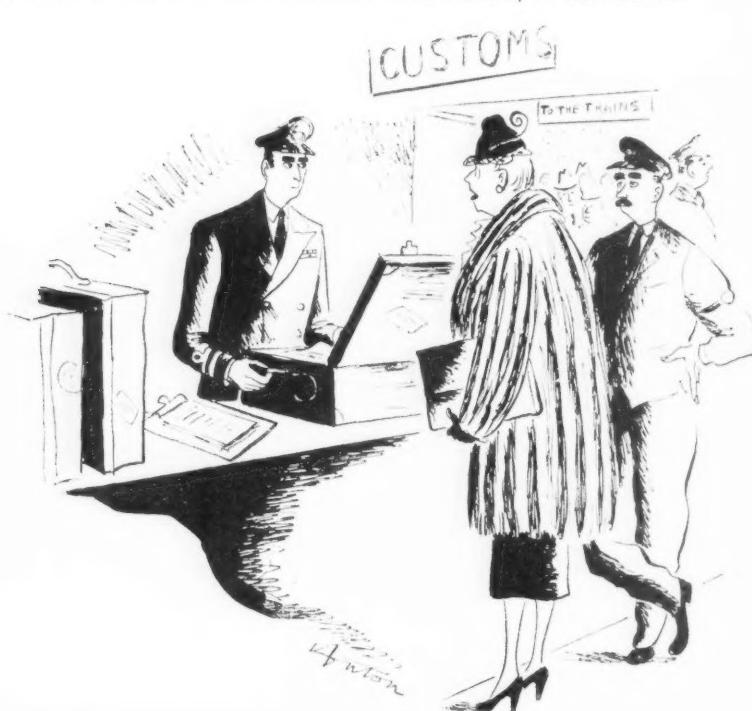
Names of the engines: *Nelly*, *Neptune*, and *King George III*. They are being built at Southport.

The company is called S & B Miniature Railways. The Festival of Britain have a holding in it.—From "The Londoner's Diary" in the "Evening Standard."

A Farm Travels South

On December 14, a special train left Stokesley, North Eastern Region, conveying the household and farm of Sir Robert Ropner, the well-known shipowner, who is removing from Skutter-skell Hall to Hartfield, Sussex, 281 miles away. The quotation for the train of 45 vehicles included 24 cattle, 2 bulls, 16 cows, 20 pigs, 120 poultry, 10 geese and six ducks. Two of the sows since farrowed, necessitating a horsebox for the 14 piglets.

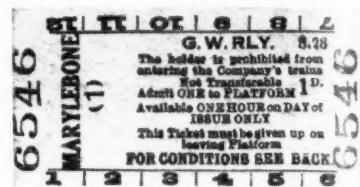
Also conveyed were four motorcars, two Fordson tractors, thresher, binder, elevator, rollers, ploughs, harrows and drills. The train was due to reach Canonbury at 3.57 a.m. on December 15 and travel via Olympia and Clapham Junction to East Grinstead, which was to be reached at 5.18 a.m. Unfortunately, bad weather delayed the start by 4½ hr. and Hartfield was reached 4 hr. late. The move was filmed by the British Transport Commission.



"Once you've made the chalk mark, does that mean I've won?"

(Reproduced by permission of the proprietors of "Punch")

Still G.W. Rly?



A platform ticket recently issued at Marylebone Station, formerly L.N.E.R., then Eastern Region, and now Western Region, which retains the pre-nationalisation description "G.W. Rly"

Petticoat Government

British Railways have lent a 1906 engine and three carriages to the B.B.C. for an episode in TV Children's Hour serial "The Railway Children." The episode will show three children waving red flannel petticoats to stop a train in danger from a landslide.—From "The Daily Graphic."

Tailpiece

When one thinks of railway porters one immediately sees
The chap who answers everybody's call.
But now on London's Underground
he's higher by degrees
For he's not a porter any more at all.
He's a stationman (or stationwoman)
now
And this title added dignity bestows.
No courtesy or rudeness he'll allow
But a charm and perfect manner always
shows.

Will the famous exhortation "Eatin'
trine—pass right along"—
Delivered with a Cockney's practised
ease—
Give way to something different—as
tuneful as a song—
"Just a little to the right, Sir, if you
please."
As a cultured stationlady so polite
Makes the passenger so readily give
way—
Or a station(gentle)man in collar white,
Shows a dignity nobody could gainsay?

Should this practice be adopted in a far
far wider field
Then the passenger should always keep
in mind
Cries of "Portah! I say—Portah!"
forever must be stilled—
Thus to speak to stationmen would be
unkind.
When the irate brigadier who wants his
case
Understanding and discretion has pro-
duced,
To a station(gentle)man—to save his
face—
He can properly, with tact, be intro-
duced.

A. E. C.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Traffic Features

The total quantity of goods traffic moved in the first three months of the current financial year amounted to 14,992,961 tons, as against 14,154,966 tons in the corresponding period of the previous year. Ton-miles recorded increased in the same period from 3,563,668,581 in 1949 to 3,860,615,812.

Total coal hauled from the collieries during August, 1950, amounted to 2,050,477 tons, of which 276,458 tons went to the ports for export and bunkers. Comparative figures for August, 1949, were 1,931,819 and 231,031 respectively. In August this year, 67,191 tons of manganese and 59,005 tons of chrome ore were hauled to the ports as against 85,272 and 30,888 tons respectively in August last year.

Many earnings records were set up during August and September. At present, the record for the weekly earnings by the railways stands at £1,764,511 during the week ended September 30. The highest goods (excluding coal), revenue yet loaded in one week was in the week ended September 16, with an amount of £1,202,566 which was £35,815 better than in the week ended August 26.

Twenty-four coaches and 230 goods wagons were placed in service during August, and 29 wagons, four locomotives, and four coaches were scrapped. All the 65 second-class main line saloons, with hot and cold running water in compartments, built by the Metropolitan Cammell Carriage & Wagon Co. Ltd., are now in service. Of 65 first-class main line saloons on order, 23 are in service, and ten of an order for 75 third-class main line saloons have been delivered.

WESTERN AUSTRALIA

New Yard at Collie

Collie, situated in the south-west, 41 miles by rail from the port of Bunbury, is the source of the Western Australian coal supplies. The output of the Collie area equals approximately 800,000 tons of coal per annum, but development in the area promises to step this production up to 1,500,000 tons annually in the near future.

A scheme has been prepared for a new marshalling yard and locomotive depot designed to deal with 1,500,000 tons a year, allowance being made for expansion at a later date to handle up to 3,000,000 a year.

The scheme provides for sidings to receive wagons loaded with coal from the mines; sidings to receive empty wagons arriving at Collie; sidings to hold empty wagons for despatch to the mines; and sidings to hold trains made up for despatch.

Necessary adjuncts are weighbridges for coal, wagon repair shed for minor

repairs, wagon overhaul depot for major repairs, and cleaning pits for shunting engines, water columns, and so on.

The present locomotive depot at which 26 engines are stationed is inadequate even for present requirements, and the new depot will be designed to handle future needs, estimated at 60 locomotives. Facilities to be provided include inspection pits, ash rake-out pits, round house and turntable for stabling locomotives, and so on, coaling plant and preparation pits and sheds, stowing roads and all the necessary adjuncts to a locomotive depot.

The Government has announced its approval to the expenditure of £100,000 on this project as an interim allocation as part of a three-year programme for the carrying out of this work.

VICTORIA

Strike Settlement

The strike of railwaymen, which lasted for 54 days, has been called off by the disputes committee of the Australian Council of Trade Unions, which informed the railways commissioners that the men would be ready for work on December 8. Work is being resumed on pre-strike conditions.

The strikers lost wages totalling £A.1,838,000, of which £A.1,500,000 was lost by men whose working conditions were not in dispute. The railways have lost at least £A.500,000 revenue. The strike originated in the refusal of the conciliation commissioners to ratify an agreement made with the railway unions regarding the working condi-

tions of guards. A condition of the settlement is that the claims will be reconsidered immediately.

ARGENTINA

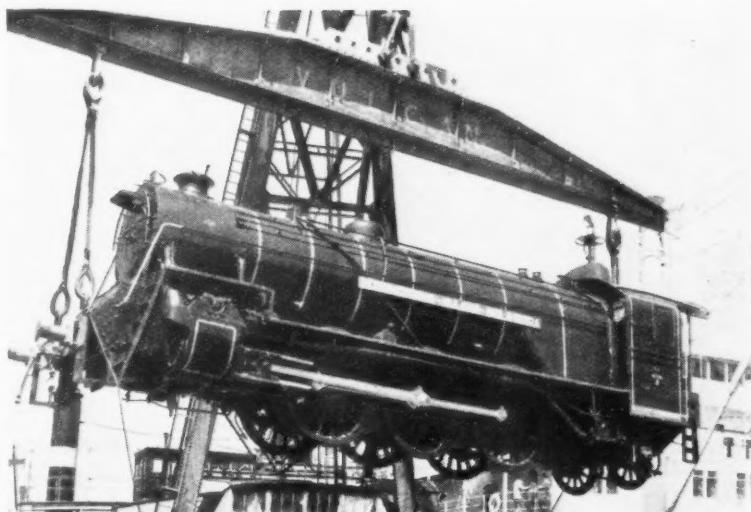
General Increase in Charges

As from September 1 last, most of the rates, fares and charges in force on the railways have been increased in general by amounts varying from 10 to 30 per cent. No standard procedure has been adopted in calculating the increases to be applied on each line, but the general result is that passenger rates on all lines except the General San Martín and General Urquiza Railways are now considerably closer to the basic kilometric rates established in February, 1949. On the two railways mentioned, these rates are already in force.

On the General Mitre Railway, for example, the new rate for 100 km. is 8·40 pesos, as compared with 6·60 pesos, an increase of some 27 per cent.; for a distance of 1,000 km. the figures are 61·60 pesos and 71·10 pesos, an increase of roughly 15 per cent. A minimum of 20 pesos has been established for sleeper and Pullman tickets, as against 12 pesos previously.

On suburban sections, the "zone" system has been generally adopted, the same rates being charged to or from all stations within a determined zone. On the General San Martín and General Belgrano Railways, where rates were cheaper, the increases have been greater. These lines had extremely cheap rates in force before December, 1949, and the percentage increase of the new rates

British-Built Locomotive for Argentina



One of a batch of twenty 4-6-2 passenger locomotives built by the Vulcan Foundry Limited for the General Mitre Railway, Argentina, being unloaded at Buenos Aires

over the old reaches as much as 140 per cent. in some cases.

Three-monthly season tickets are once again on sale, but without proportionate reduction on the monthly rate. Reductions are again granted to students under 18, commercial travellers, and for groups of not less than 25. Workmen's weekly season tickets are not increased. The General San Martín Railway has abolished main-line return tickets.

Goods rates have also been increased, in a number of cases, by the simple expedient of reclassifying different items, though flour, groceries and similar articles are not included. The general effect is that the cost of transport is increased by some 10 to 12 per cent.

Free Accident Insurance for Passengers

Concurrently with the increase in passenger fares, a scheme for free insurance of passengers against rail accidents has been brought into force, with benefits reaching a maximum of 15,000 pesos in the case of death, or permanent and absolute disablement. Other payments for partial disablement will be made in accordance with existing laws, decrees and regulations. Hospital attention for those injured in train accidents will also be for account of the railways.

Publications Received

The Highway Engineer's Pocket Book.—A Simplified Guide to Road Location for Field and Office Use. By F. G. Royal-Dawson. London: E. & F. N. Spon Limited, 22, Henrietta Street, W.C.2. 7½ in. x 5 in. 113 pp. Price 12s. 6d. This book meets the need for a handy pocket size publication containing the essentials for setting out curves in the simplest way either for realignments of existing roads or for the creation of new roads. The text summarises experience and is so presented as to illustrate simply how to obtain direct results from the tables which form its main features.

The Central London Railway. By B. G. Wilson and V. Stewart Haram. Obtainable from 40, Edenfield Gardens, Worcester Park, Surrey. 7 in. x 5 in. 50 pp. Illustrated. Paper covers. Price 5s. net.—Local London railways, despite their importance, and the vast volume of traffic they carry, have not attracted the attention of railway authors to anything like the extent of rural lines. The present booklet, therefore, establishes its own precedent, and may well become the standard for future works of the kind. The authors have chosen a suitable time, in presenting what is a most acceptable and readable memento of the jubilee of opening of the Central London Railway. In earlier years, this railway was in many respects a pioneer, and it is all to the good that a record of its distinctive characteristics should be preserved now that it has been so completely absorbed into the general London tube system. A happy balance has been preserved between the politi-

The first payment under the scheme has already been made in the case of a youth killed recently when a suburban train of the General Roca Railway collided with a shunting locomotive, although his death was the result of his carelessness, as he was standing on the platform of the first coach of the train, contrary to rules.

Increase in Passenger Traffic

The Ministry of Transport has announced the following statistics regarding the number of passengers carried in 1949 as compared with 1948:—General Roca Railway, 124,393,791 against 109,500,000; General Mitre Railway, 139,198,423 (117,726,222); General Belgrano Railway, 46,719,781 (36,658,936); D.F. Sarmiento Railway, 93,318,514 (79,449,826); General San Martín Railway, 42,399,526 (36,335,512); General Urquiza Railway, 4,261,452 (3,444,591).

IRELAND

Strike of C.I.E. Employees

A strike of some 3,000 workers of the Irish Transport & General Workers' Union employed on the railways of Coras Iompair Eireann began at midnight on December 14. C.I.E. stated that it would endeavour to operate as

cal, legal, and statistical, on the one hand, and the engineering on the other. A noteworthy feature is the series of references to articles in contemporary literature. The illustrations are well-chosen and are far from being hackneyed subjects.

The L.N.W.R. Eight-Coupled Goods Engines. By J. R. Gregory, Cheam, Surrey: The Railway Correspondence & Travel Society, Honorary Publications Officer, 18, Holland Avenue. 8½ in. x 6½ in. 23 pp. + 9 pp. plates. Illustrated. Paper covers. Price 2s. 6d.—The London & North Western Railway was the first to adopt the eight-coupled tender engine on a large scale. It built 572 in all, considerably more than any other company, and all but one passed to the L.M.S.R. They embraced eleven different classes which were converted and intermingled to such an extent that their complicated story appears never to have been comprehensively dealt with. A series of articles on these engines, now reduced to three fast-diminishing classes, which recently appeared in *The Railway Observer* has been prepared in booklet form, making a complete reference work.

Choice of Engineering as a Career.—During the past 70 years the Brush Electrical Engineering Co. Ltd. has built up a world-wide reputation for the high quality of its products. This has resulted from sound workmanship coupled with well planned training schemes. Always the education of apprentices has been a feature of Brush policy and many prominent engineers have received their training with this

many services as possible. The men, who are seeking higher wages and improved conditions, rejected terms offered by C.I.E.

Three other unions which cater for men in the operative groups—the National Union of Railways, the Associated Society of Locomotive Engineers & Firemen, and the Irish Railways' Union—had accepted terms similar to those rejected by the I.T.G.W.U., and they instructed their members to carry on normal duties. Nevertheless, on December 19, 50 members of the N.U.R. and A.S.L.E.F. came out at Bray.

Mails are being distributed by road. On the night of December 19, many trains on the skeleton schedule arranged did not run and there was no main-line service from Dublin to the West.

Fuel Economy Campaign

The annual locomotive coal bill of Coras Iompair Eireann is approximately £1,000,000, more than the finances of the system will bear. The cost per ton is now nearly four times as much as in 1939.

Committees have been set up to enquire into every aspect of the problem and an appeal for economy has been made to members of the staff.

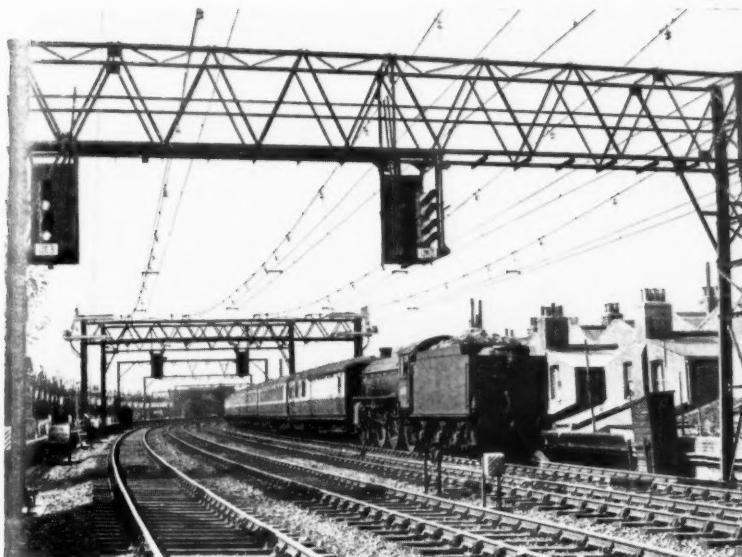
concern. Recently, there has been published an illustrated brochure outlining the schemes which exist for training, which should prove of interest to graduates about to leave college and to younger people just leaving school as well as those responsible for advising them. The first part of the brochure deals with the history of the firm, other sections including details of the various apprentice training schemes, together with a description of the craft training centre, hostels, and so on. Within a mile of the works is Loughborough College, with its engineering department, where part-time day courses may be taken; the Brush firm also collaborates with Nottingham University in the field of advanced studies.

Paxman Boilers.—A brochure on recent developments in boiler design has been issued by Davey, Paxman & Co. Ltd., Colchester, which contains illustrations and descriptive matter relating to the range of sectional boilers made by this firm. There are included illustrations of various boiler installations with tables giving the dimensions and capacities of each type.

De-Icing and Anti-Freeze Products.—A brochure relating to liquid and paste products for de-icing and anti-freezing has been published by the Kilmrost Manufacturing Co. Ltd., St. Nicholas Buildings, Newcastle-on-Tyne. The brochure contains a number of half-tones illustrating the results obtained when applied to signal mechanism and conductor rails. The materials are supplied in various forms to suit specific purposes, such as bath application, pressure feed, by grease gun or paste form.

Signalling for Eastern Region Electrification—2

Route relay interlocking signalboxes substituted for mechanically worked boxes



Four-aspect signals at Bow Junction

THE middle section of the work which covers Mile End, Bow and Stratford was carried out by Metropolitan-Vickers GRS Limited and was formerly controlled by no fewer than nine mechanical signal boxes containing 459 levers. These have been replaced by three route relay interlocking boxes of the "NX" type. The name is derived from a phonetic abbreviation of the two essentials in train movement, the entrance of a train into the controlled area and its exit therefrom.

The working is effected by giving the signalman a panel embodying a diagram of the track layout on which each signal is represented by a small rotary switch. To signal a train the signalman first turns the signal switch at the point on the diagram where it is to enter the area, or from which it starts, and then pushes a button at the point to which it is to proceed, usually the next signal. These two actions, provided the track conditions permit, operate all the necessary points to the correct positions and clear the appropriate signal. The switch is turned in one direction for a main running movement and in the other for a shunt movement, and all signals have the so-called "stick" feature, except that during peak hours the signalman's work is rendered easier by the fact that the main running signals continue to work automatically for straight through movements and no switch operations have to be made for them.

The signal boxes are of similar general design with a plain brick exterior relieved by certain pre-cast concrete features. The interiors are agree-

ably finished—and this applies throughout the entire work—and present an attractive appearance. As at Liverpool Street and all the other signal boxes in the area carbon dioxide fire extinguisher apparatus is installed.

The panels at Mile End and Bow Junction are 9 ft. long, and that at Stratford 22 ft. long. They are of metal with matt green finish and the track circuit sections shown in soft pastel shades in contrasting colours, track occupancy being shown by the lighting up of lozenge-shaped indicators in the various sections. Point indicators are of the magnetic type, moved through relays in consonance with the points, so that the setting up of the routes can be exactly followed and the failure of any pair of points to respond as intended quickly discovered. Should any points fail to complete their stroke a red lamp lights in the relative point test switch used for individual operation when necessary. The switches have various colours to distinguish their functions and have arrows on them indicating the direction of traffic concerned.

Routes Controlled

Mile End box controls 42 routes, Bow Junction box 64 and Stratford 178, exclusive of ground frame, detonator placers and single line controls. The Bow and Stratford areas are extensive and complicated and call for many crossing movements. At Stratford the traffic and the track layout fall into two distinct groups, main and electric lines through traffic, and carriage and goods line traffic. The panel has in consequence been divided into two halves, panels A

and B, which are arranged, for greater convenience, side by side and not one over the other. Each is operated by its own signalman.

At Bow Junction and Stratford there are side wings to take train description apparatus, signal post telephones and certain other items. One signalman and telephone boy are required at Mile End and Bow, and at Stratford there are two signalmen, one telephone boy and one time-keeper, with a train regulator on the two day shifts to supervise movement in the area controlled by this box.

Features of the Equipment

Relay interlocking work necessitates the use of a large number of relay contacts. "Plug-in" type relays are used throughout these particular installations. All line relays of which the circuit originates in the signal box are of the d.c. tractive armature pattern, and all track relays, point detection and other line relays, of which the circuit originates outside the box, are of the a.c. vane type.



Three-aspect signal with 3-way junction indicator

To safeguard against a route being prematurely released through one track relay recording "clear" before the next in advance has been able to drop away to "occupied," slow pick-up track repeater relays are used for all vital locking and route locking circuits. Relays with dissimilar operating characteristics cannot be plugged into similar connecting boards. Great care has been taken to arrange the relay assemblies and wiring thereto in the most compact and neat manner and the results are most striking. The relay rooms present an excellent appearance, as they do indeed throughout the whole of this new work.

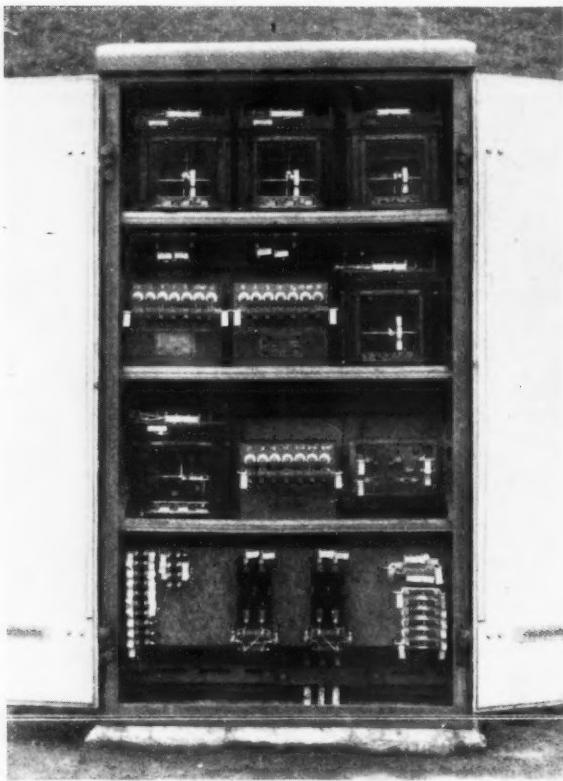
The signals are generally of the same

point lock, motor control and detection contacts. These machines have a dynamic snub to bring them to rest smoothly, and each has its individual a.c. 3-position point detection relay working on the superimposed circuit, only three wires being required to carry both 110 volts d.c. for operating and the a.c. for detecting.

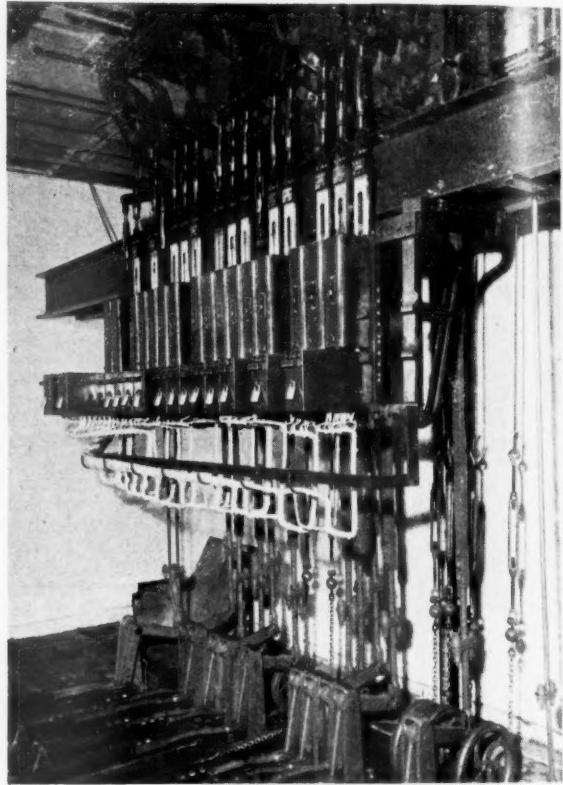
Detonator placers, actuated by motors are located at certain points in the layout. Both single and double rail track circuits are used, as circumstances require and, except where it is impracticable to do so, all track relays are placed in the signal boxes.

The apparatus cases are of welded

415 volts at the stand-by building, where interlocking apparatus and transformers provide two separate single-phase 660-volt feeds, one to Bow Junction and Mile End, the other to the Stratford area, which is on a closed ring main. Should there be a complete failure of supply or a drop in voltage of 10 per cent., or a 2 per cent. variation in frequency, a 60-h.p. diesel-alternator set is brought into operation automatically and takes up the load in from 5 to 8 sec. When the supply is restored it and the emergency one are synchronised and the changeover effected by hand through a push-button; the set is shut down manually. Alarms are given in



Double-door steel case housing signal control and track circuit apparatus



Combined lever locks and circuit controllers at Chadwell Heath

type, allowing for differences in detail between manufacturers' designs, as are found at the other locations. The shunt signals are of the solenoid disc-plate type carrying a coloured bar and are floodlit. Main running signals have side lights, and backlights when required. Stencil type route indicators are used with the subsidiary and shunt signals. Most of the signals are carried on gantry structures, often those supporting the traction wires, and are mounted in frames having their sides filled with metal screens to protect the maintenance staff from making contact accidentally with the high voltage circuit.

Points are operated from a 120-volt d.c. supply by self-contained units comprising the motor operating mechanism,

steel and each location has its separate housing containing the 660-volt power transformer with its associated link fuses and cable pot-heads. The housing and terminating of the main cables is effected by means of cases with double-doors, front and rear, the rear ones giving access to the pot-heads with terminals above, the front part of the case carrying apparatus mounted in the customary way. This affords a great saving of space.

Power Supply

Power comes in from the British Electricity Authority at 33,000 volts, 3-phase, 50 cycles and is received at each traction sub-station. At Stratford this is transformed into two supplies at

all three signal boxes when the normal supply fails and again on its restoration.

Each signal box has a cubicle type switchboard containing all apparatus for distributing the various supplies, except batteries which are housed in a separate room, and the equipment covers several supplies, a.c. or d.c., at varying voltages, for feeding signal lamps, track relay locals, floodlighting the shunt signals, panel indications, battery charging, etc.

The batteries at this location are of the nickel-iron type. There is a floating one for dealing with interlocking and control relays, point contactors, magnetic point indicators, etc. All main cables between signal box locations are paper insulated lead covered single wire

armoured of the 1,000-volt class, terminating in lead sleeve potheads. There are separate 2-core 19/052 cables for 600-volt power distribution. The cables are buried directly in the ground, or carried on hangers, with earthenware ducts at crossings under the lines. Special arrangements had to be made for the large number entering Stratford signal box, carried in a multi-duct run under the track and passed through a separate chamber before going to the box for termination. All cables and wiring meet the relevant specifications for railway signalling cables and everything is of the highest class of manufacture.

Maryland to Gidea Park

The work between Maryland, just beyond Stratford, and Gidea Park, the eastern end of these new installations, has been provided and installed by the Westinghouse Brake & Signal Co. Ltd. It does not involve large signal boxes but covers a variety of conditions that have been met by applying equipment of varying forms to satisfy requirements in the most effective and economical way. This area includes four new signal boxes at Ilford, Ilford Car Sheds, Goodmayes and Chadwell Heath, and modernisation of the existing boxes at Forest Gate, Romford and Gidea Park. These seven boxes have replaced eleven mechanical boxes.

With the exception of Goodmayes, the working is controlled from mechanical lever frames in conjunction with relay interlocking panels. New frames of the Westinghouse W.17A pattern were put in at Ilford, Ilford Car Sheds and Chadwell Heath, and those existing elsewhere considerably modified.

The control panels are mounted over the frames, and the signals and, in a number of cases, power worked points, are operated from individual thumb-switches located in their geographical positions on the panels. The majority of the signals, whether main or subsidiary, are approach locked and provided with time releases to free them in the event of a wrong route being set up by mistake. A visual indication on each panel warns the signalman when such a release is in operation. The track circuits are picked out on the panels in distinctive colours on a matt green background and an occupied section is shown by two red lights. This colour is used also for the danger indication of all signals, with green for clear for the main and white for the off indication of subsidiary signals.

Point indications consist of white "N" and "R" illuminated signs. There is no locking on any of the thumb-switches which are free to be turned at all times. Controls are of the individual type, except at Goodmayes signal box, where there is a complete relay interlocking of what is called the O.C.S. (one control switch) pattern, with the track layout and control switches arranged on a desk. The indication that a route has been set up is provided by a series of evenly spaced white lights illuminated from the signal location concerned up to the end of the

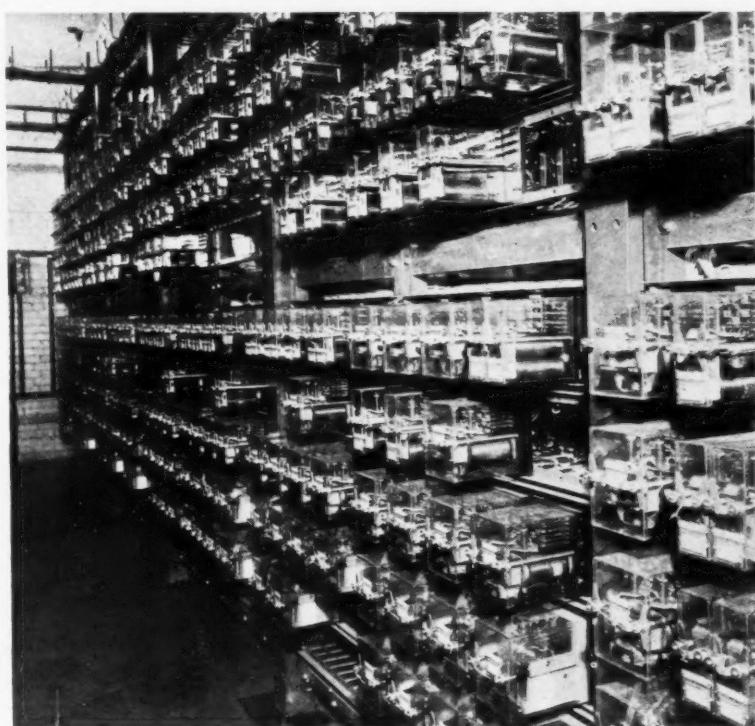
route, verifying to the signalman that everything has correctly responded. This makes clear immediately when and what other routes may be set up.

When all signals have been cleared for through movements in an interlocking area they become automatic and operate for regular traffic with no further intervention on the signalman's part. During peak periods therefore the signalmen do not have to actuate any switches. These arrangements have resulted in the traffic requirements being met without going to more elaboration than was essential to obtain satisfactory facilities.

All running lines are track circuited throughout, with both double- and

single-rail equipment, following the same general principles as met with elsewhere in the work. On some of the longer circuits resonated impedance bonds are provided at intermediate points, for cross-bonding the return traction circuit, and at points near the sub-stations. The single-rail circuits, which are condenser fed, are installed at crossings and junctions. Out of 472 track circuits 172 are single-rail. The length of line covered is 10 miles and over 600 impedance bonds were required.

The close spacing of the overhead structures for carrying the traction wires offers considerable interference to the sighting of mechanical type signals and colour-light signalling is the only real



Relay racks, Bow Junction, with "plug in" type relays

single-rail equipment, following the same general principles as met with elsewhere in the work. On some of the longer circuits resonated impedance bonds are provided at intermediate points, for cross-bonding the return traction circuit, and at points near the sub-stations. The single-rail circuits, which are condenser fed, are installed at crossings and junctions. Out of 472 track circuits 172 are single-rail. The length of line covered is 10 miles and over 600 impedance bonds were required.

Main running signals are of the long range multi-lens type with miniature type associated with them, as necessary, for leading to "no block" lines and reception roads. These miniature signals show no normal aspect, but give a small yellow light to authorise a move-

solution of this difficulty. In this case the signals are in excellent view of the drivers and their sighting leaves little, if anything, to be desired.

The points are worked generally mechanically—except again at Goodmayes—from ordinary lever frames, in some cases in conjunction with "economical" lock movements, but where they are at some distance from the box a.c. point machines are installed, governed by point controllers placed alongside them. Control is effected over an inherently safe circuit, using two wires only between signal box and the location, current for operating the machine itself being tapped locally through short cable leads, reducing voltage drop to a minimum.

There are hand cranks for emergency operation, the crank being part of a

Hepper's instrument located close to the points and only able to be withdrawn for use after an electrical release has been obtained from the signal box. In this way the crank can be used in the machine without a man having to go there from the box. There is an emergency special key release to cover the possibility of a failure of the Hepper mechanism. The small key used for this purpose is kept under seal in the signal box.

Power comes from two sources, the British Electricity Authority at Crosswall and the London Electricity Board at Barking, at 415 volts, 3-phase, 50 cycles. This is taken to the Chadwell Heath power house where by a change-over switchboard, either supply can be selected. A failure of the supply in use

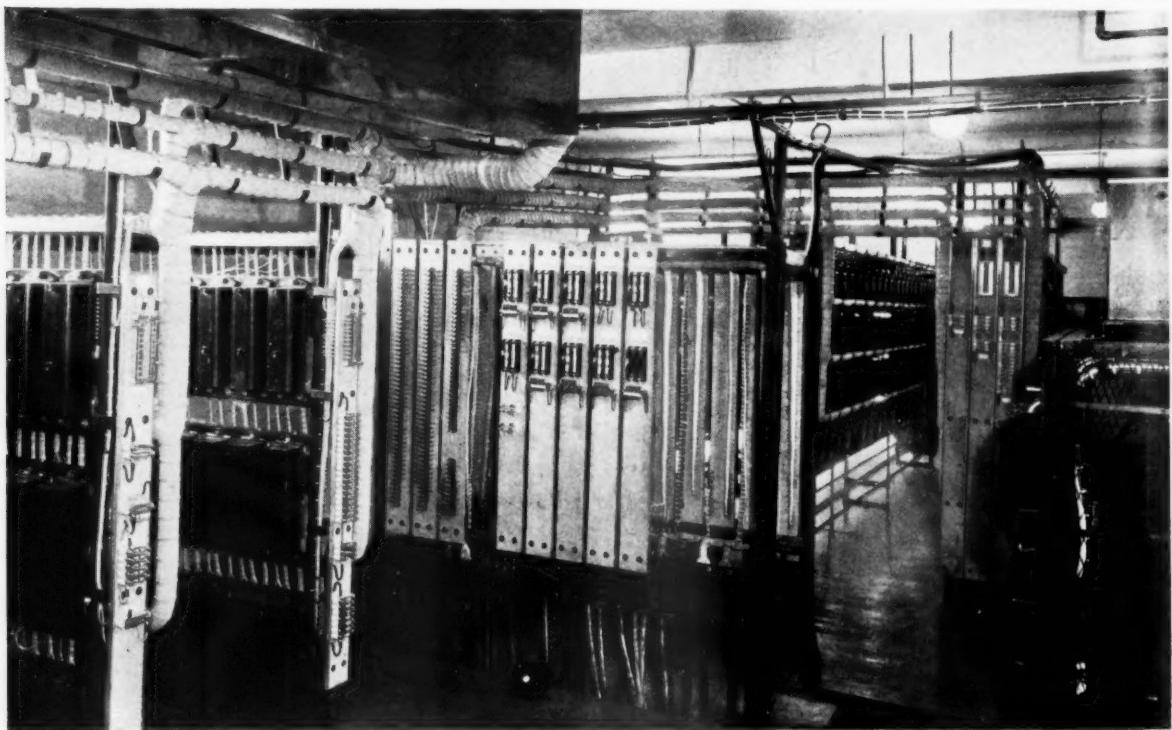
a 110-volt a.c. ring main ensures that each is fed from two or more sources.

Thus every precaution is taken, as everywhere in this new work, to make certain that the signalling shall always remain functioning complete. Indication lamps and alarms serve to notify those concerned when circumstances alter and whether the stand-by equipment is operating or not.

The cabling and wiring are carried out on the same general principles and to the same standards as those already referred to in connection with the other areas involved and the relay rooms at the signal boxes, not to mention local apparatus cases, present a pleasing appearance, with compact, neat, and well finished layouts and wiring. The design of the signal boxes and the

system and provided by Standard Telephones & Cables Limited. They enable a driver, when held at a signal, to communicate with and obtain instructions from the signaller concerned. A coded impulse system is used and the signaller knows, by an illuminated indicator, from which signal he is being called and he can only converse with the caller at that point. All risk of instructions intended for a particular driver being heard by another is thus eliminated.

This work, which represents one of the largest ever carried out in Great Britain and covers a particularly important section of heavily-trafficked main line, was planned and begun before the war but suspended soon after. It has been carried to completion to the instructions of Mr. A. Moss, Signal and



Relay room, Goodmayes signal box, showing lower part of operating panel on left

at any one moment immediately cuts in the alternative one and indicates accordingly. Should all main supply fail the load is automatically taken over by a 70-kVA. diesel-alternator set, which also comes into action, as at the other locations already dealt with, if voltage or frequency vary beyond certain pre-determined limits. The 3-phase supply, from whatever source, is converted to 2-phase, 660 volts, by transformers and the signalling load is so arranged that each phase supplies approximately half the total, one phase in each direction. All signal boxes and apparatus locations are fed from these 660-volt mains and the required lower voltages there are obtained through transformers. At interlocking locations

various arrangements associated with them, such as fire protection and equipment for the comfort of the signaller, are on the same lines as between London and Maryland.

Little Interruption to Traffic

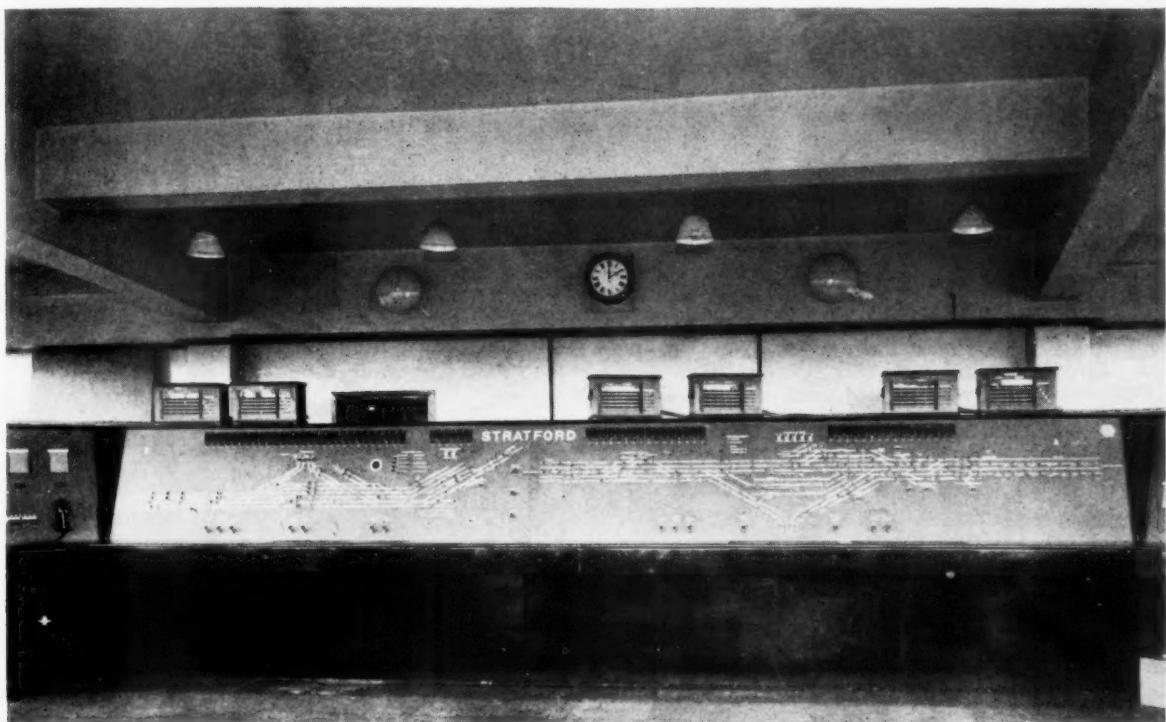
The whole of the work was carried out without appreciable interruption to traffic, despite the trial running later of the new electric trains between Ilford Car Sheds and Gidea Park. The bringing into use of the new signalling involved careful planning and included also running new mechanical rodding runs and the re-arranging of existing connections.

All running signals are equipped with telephones operating on a selective

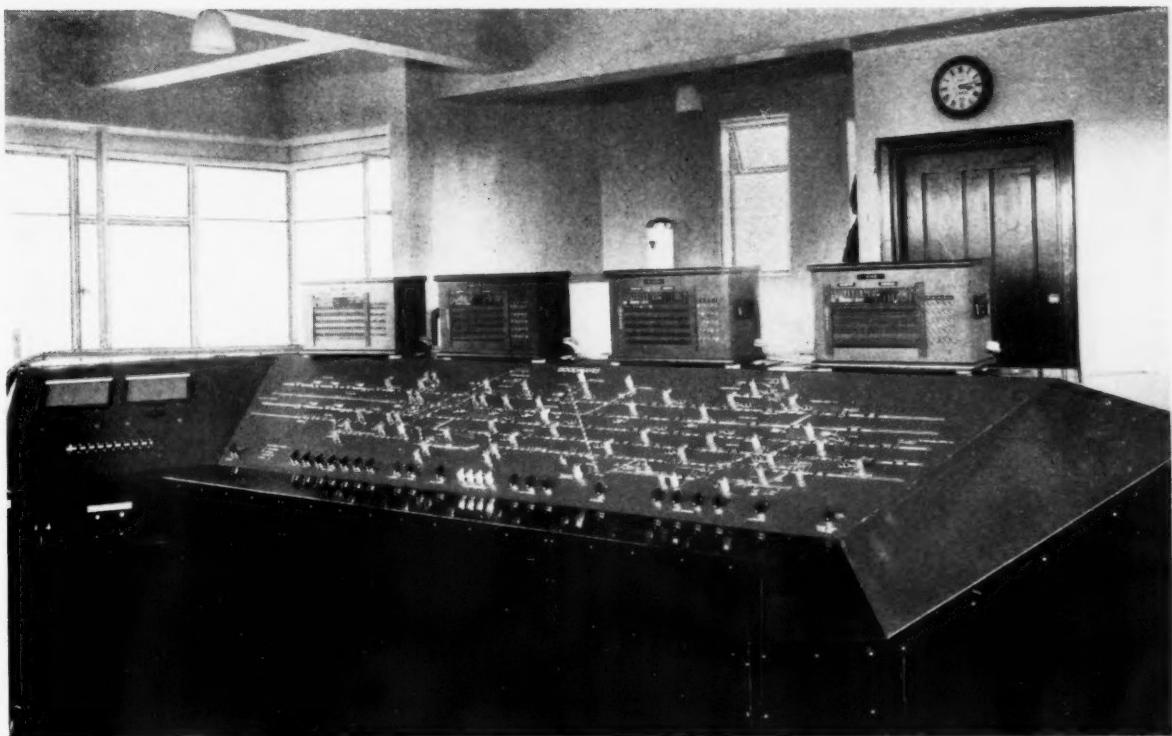
Telecommunications Engineer, Eastern Region, British Railways, to whom we are indebted for assistance in preparing this account.

RAILWAY STUDENTS' ASSOCIATION.—At a meeting of the Railway Students' Association, London School of Economics & Political Science, on December 13, Mr. R. Dell, Signal Engineer to the London Transport Executive, presented a paper entitled "Signalling Headways on the Railways of London Transport." Mr. A. H. Grainger, Member, London Transport Executive, occupied the chair. The paper was illustrated with lantern slides, and, by means of a model, a demonstration was given showing the operation of speed control signalling.

Signalling for Eastern Region Electrification—2



"NX" type operating panels, with train describers and telephones, Stratford



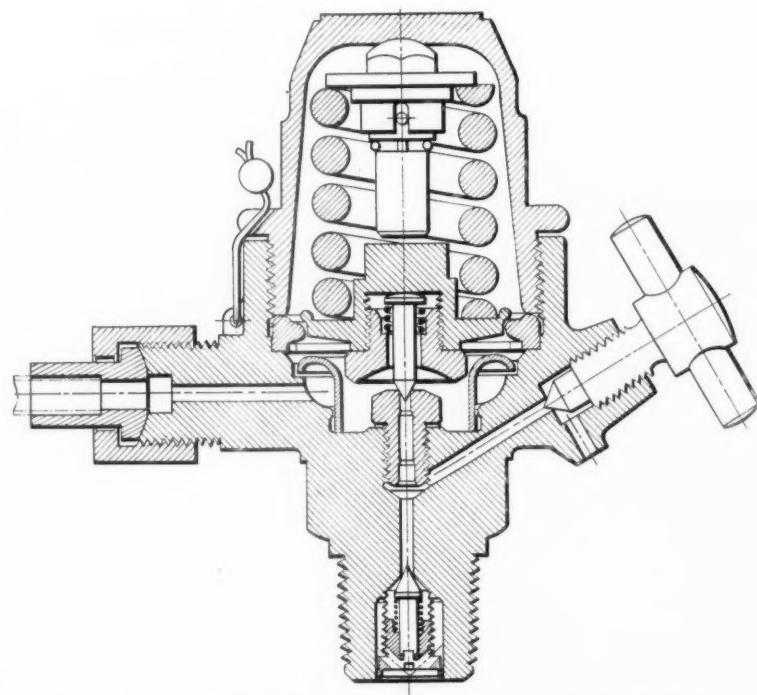
"O.C.S." type desk relay interlocking panel at Goodmayes

Locomotive Lubricating

Mechanical and hydraulic operation

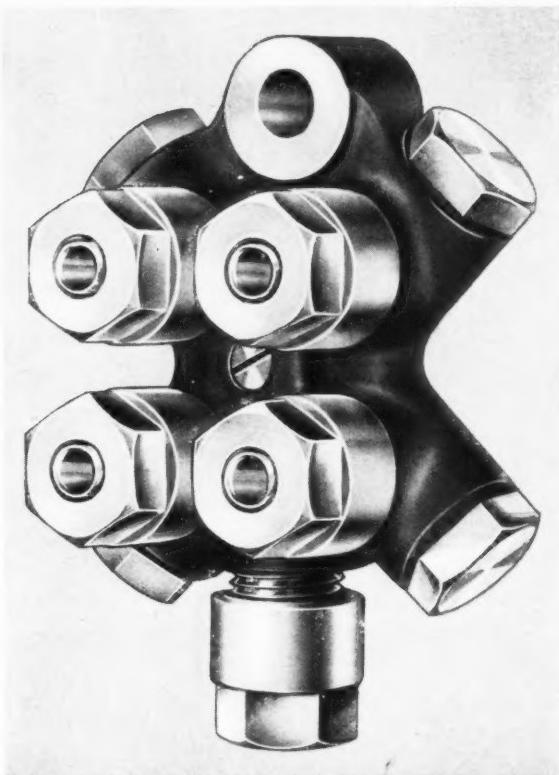
BY a recent agreement the firm of Davies & Metcalfe, Limited, Romiley, Manchester, has been granted a licence by Alex. Freidmann, Vienna, to manufacture their full range of mechanical lubricating equipment. Included in this equipment manufactured by Davies & Metcalfe are the type F.S.A. valveless mechanical lubricator, the Olva high pressure terminal check valve, and the patent Four-way oil distributor. The Freidmann type F.S.A. lubricator operates without spring-loaded ball valves for the inlet and outlet ports of the pumping units. These ports are opened and closed by a mechanically operated oil tight distributing piston.

The design of the lubricator is very compact and is available in two sizes, with feeds up to 12 and 24 respectively, each feed may be regulated from zero to its full delivery. The silent ratchet drive is operated in the normal manner from the locomotive valve motion. In the Olva valve a strong spring assures an absolute oil-tight seating of the valve pin, which is attached to an unbreakable diaphragm actuated by the oil pressure. The Four-way oil distributor consists of hydraulically actuated pistons, which enables a supply of oil to be delivered from each outlet

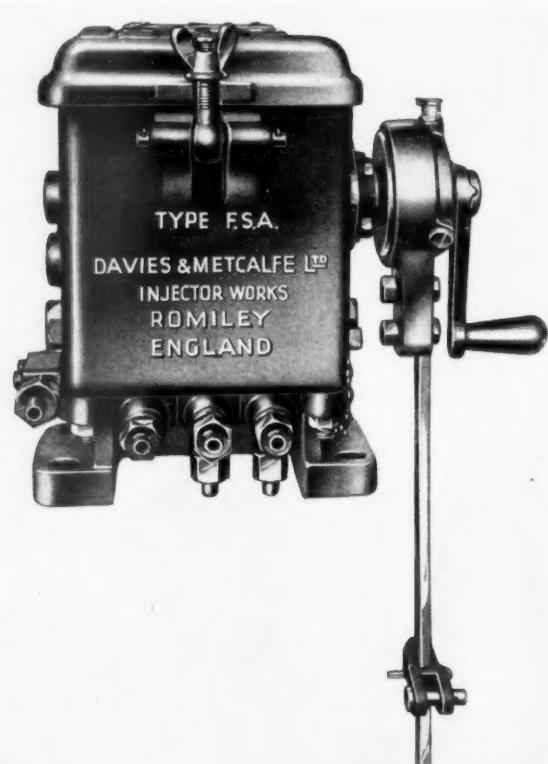


Olva oil cut-off valve which incorporates an unbreakable diaphragm

in the required quantity irrespective of varying resistances. It is claimed that this fitting increases the scope and efficiency of mechanical lubrication, and is manufactured with two, four, or eight outlets.



Hydraulically actuated Four-way oil distributor



Freidmann mechanical lubricator ; the driving lever

RAILWAY NEWS SECTION

PERSONAL

BRITISH TRANSPORT COMMISSION

The Minister of Transport announces that Mr. John Ryan has accepted his invitation to become a part-time Member of the British Transport Commission. Mr. Ryan is Vice-Chairman of the Metal Box Co. Ltd., and is a Member of Council of the British Standards Institution and a Member of the Grand Council of the Federation of British Industries. He has served on various Government committees.

Mr. C. G. Page, M.C., Secretary to the London Transport Executive, who, as recorded in our December 1 issue, has retired, was born in 1885. After taking his B.A. degree at Cambridge, he was called to the Bar, Inner Temple, in 1910, and practised as a barrister until 1913, when he joined the Underground group of companies as Legal Assistant. In the 1914-18 war, he served with the Border Regiment and was awarded the M.C.; after the war he was appointed Legal & Parliamentary Officer of the Underground companies.

tired. Mr. D. V. Gonder, General Manager, Western Region, Canadian National Railways, has been appointed an Assistant Vice-President at headquarters and will undertake special mechanical studies on the system.

Mr. R. M. Robbins, Secretary to the Chairman, London Transport Executive, who, as recorded in our December 1 issue, has been appointed Secretary, London Transport Executive, is 35, and was educated at Westminster School, Christ



Mr. C. G. Page
Secretary to the London Transport
Executive, 1947-50



Mr. R. M. Robbins
Appointed Secretary to the London
Transport Executive

RAILWAY AND ROAD HAULAGE EXECUTIVES

The Minister of Transport has announced that the following have accepted his invitation to become Members of Executives:

RAILWAY EXECUTIVE Members (Part-Time)

Sir Herbert Merrett, Chairman, Powell Duffryn Limited, and Cory Brothers & Co. Ltd.; Director, National Provincial Bank Limited.

Mr. George Nicholson, Director of the Scottish Co-operative Wholesale Society Limited.

ROAD HAULAGE EXECUTIVE Member (Whole-Time)

Mr. G. F. Sinclair, Chief Technical Planning & Supplies Officer, London Transport Executive.

On the formation of the London Passenger Transport Board in 1933, he became Parliamentary Officer and he was appointed Secretary & Chief Legal Adviser in 1937. Mr. Page became Secretary to the London Transport Executive in 1947.

BRITISH RAILWAYS APPOINTMENTS

The Railway Executive has announced the following appointments at the Railway Executive Headquarters:

Mr. R. W. Bailey, Staff Officer (Technical & Maintenance Staff), to be Executive Officer (Technical & Maintenance Staff).

Mr. D. F. Gowen, Staff Officer (Salaried Staff), to be Executive Officer (Salaried Staff).

Mr. J. Reginald McMillan, General Superintendent, Manitoba District, has been appointed Vice-President, Western Region, Canadian National Railways, in place of Mr. J. P. Johnson, who has re-

Church, Oxford, and Vienna University. He entered the service of the London Passenger Transport Board in 1939, and after serving during the war in the Transportation Branch of the Royal Engineers, resumed employment with London Transport in 1946; he was appointed Secretary to the Chairman in September, 1947. Mr. Robbins will continue to act as Secretary to the London Plan Working Party and the London Joint Advisory Committee, the joint bodies of the Railway and London Transport Executives concerned with the development of the London Railway Plan and matters of common interest to London Transport and the Railway Regions.

We regret to record the death on December 12, at the age of 71, of Sir Preston Colvin, O.B.E., a former Deputy Traffic Manager, Burma Railways, and at one time a Member of the Indian Railway Board.

*Mr. C. Grasemann*

Public Relations & Publicity Officer, Southern Region, who is retiring

*Mr. F. D. Y. Faulkner*

Appointed Public Relations & Publicity Officer, Southern Region

*Mr. J. W. J. Webb*

Appointed Assistant Chief Financial Officer, Railway Executive

Mr. C. Grasemann, M.A., Public Relations & Publicity Officer, Southern Region, who, as recorded in our December 8 issue, is retiring on December 31, is the son of the late Mr. C. E. Grasemann, a former Chief Goods Manager of the London & North Western Railway. After being educated at Rugby and Trinity College, Cambridge, he joined the staff of Bull, Austin & Company, an advertising and printing business dealing largely with transport printing. In January, 1912, he entered the service of the South Eastern & Chatham Railway, and became an Assistant District Superintendent in May, 1914. During the 1914-18 war he served for over four years in France in the Railway Operating Division (R.E.) and was demobilised with the rank of Captain. On the formation of the Southern Railway he was appointed Assistant to the London East Division under Sir Eustace Missenden, the present Chairman of the Railway Execu-

tive, and in 1925 was appointed Assistant Divisional Superintendent at Exeter. In March, 1930, Mr. Grasemann was appointed to succeed Mr. John Elliot as Public Relations & Advertising Officer of the Southern Railway, in which capacity he was responsible not only for Public Relations and the company's own advertising, but also for Commercial Advertising. Shortly after taking over the position he formed a Film Division, that produced some notable films which have been translated into other languages and have proved to be popular with the public and the staff. He was eight times Chairman of the Railway Clearing House Public Relations & Advertising Committee previous to nationalisation. On the nationalisation of the British railways he was lent to the Railway Executive, under Field-Marshal Sir William Slim to assist in forming a Public Relations Department, and under the new organisation of 1949 he returned

to the Southern Region as its Public Relations & Publicity Officer. He has received the French Legion of Honour for his services to tourism between the two countries, and also has been made Chevalier dans l'Ordre de la Couronne for his services as Chairman for many years of the Anglo-Belgian Publicity Committee. Mr. Grasemann, who is a Freeman of the City of London, is a past Master of the Fruiterers Company and is also on the Court of the Stationers and Newspapermakers Company.

Mr. F. D. Y. Faulkner, Assistant Publicity Officer, Railway Executive, who, as recorded in our December 8 issue, has been appointed Public Relations & Publicity Officer, Southern Region, as from January 1, 1951 entered the service of the L.N.E.R. in 1916, in the General Manager's Office. He saw service with H.M. Forces during the 1914-18 war, and on his

*Mr. C. F. E. Harvey*

Appointed District Traffic Superintendent, Plymouth, Western Region

*Mr. K. A. Kindon*

Appointed District Passenger Superintendent, Sheffield, Eastern Region

*Mr. W. G. Thorpe*

Appointed District Operating Superintendent, Leeds Central, North Eastern Region

return was transferred to the District Superintendent's Office, Euston, to gain station and district experience. In 1923 he went to the Passenger Commercial Superintendent's Office at Euston and joined the staff of the Publicity Department, L.M.S.R., in 1925. Mr. Faulkner served in the Home Guard from 1940 to 1944 and attained the rank of Major. During the early part of 1947 he was appointed Assistant to the Chief Commercial Manager (Trade Advertising), L.M.S.R., and in February, 1948, was appointed to the staff of the Railway Executive in the capacity of Assistant Advertising Officer. Mr. Faulkner became Assistant Publicity Officer, Railway Executive, under the new organisation of 1949.

Mr. J. W. J. Webb, Expenditure Assistant to the Chief Financial Officer, Railway Executive, who, as recorded in our December 1 issue, has been appointed Assistant Chief Financial Officer, entered the service of the G.W.R. at Kings Sutton in 1919 and joined the Chief Accountant's Office the following year. After special training in other Departments he returned to the Chief Accountant's Office in 1929. In the next few years he was mainly engaged with inter-company expenditure matters, and from 1933 to 1936 was also Secretary to the Committee of Accountants appointed to inaugurate the London Passenger Pooling Scheme. In 1940 he became Assistant to the Chief Accountant, and throughout the period of Government control was a member of several sub-committees of the Accountants' Committee dealing with matters arising out of the Railway Control Agreement. Mr. Webb was appointed Expenditure Assistant to the Chief Financial Officer, Railway Executive, in 1948. He holds the B.Com. degree of London University.

Mr. C. F. E. Harvey, District Operating Superintendent, Worcester, Western Region, who has been appointed District Traffic Superintendent, Plymouth, joined the G.W.R. in 1923 in the Divisional Superintendent's Office, Paddington. He had further experience at Exeter and Birmingham, and after a period in the Office of the Superintendent of the Line at Paddington, was appointed Junior Assistant to the Divisional Superintendent, Cardiff. In 1932 he was transferred to a similar post in the Birmingham Division and in 1935 became Chief Clerk to the District Traffic Manager, Plymouth. He was appointed Assistant & Chief Clerk to the Divisional Superintendent, Exeter, in 1937, and was released for service with the Army two years later. Mr. Harvey served with the 154th Railway Operating Company, Royal Engineers, with the rank of Captain, and later went to the Middle East as Deputy Assistant Director of Transport. In 1942 he was promoted Lt.-Colonel on the formation of No. 6 Railway Operating Group in the Middle East, and was mentioned in despatches. On demobilisation in 1945, he was appointed Assistant Divisional Superintendent, Birmingham, and he moved to Worcester as Divisional Superintendent in 1947; the post was redesignated District Operating Superintendent in 1949.

Mr. K. A. Kindon, M.Inst.T., Acting District Passenger Superintendent, Sheffield, Eastern Region, who, as recorded in our December 8 issue, has been appointed District Passenger Superintendent, Sheffield, was educated at Southgate County School and London University (London School of Economics and King's College).

He joined the staff of the Chief Goods Manager, G.C.R., at Marylebone in 1918 and was appointed to the Wages Staff Section of the Chief General Manager's Office, L.N.E.R., after the amalgamation in 1923. In the following year he was one of the five successful candidates in the first competitive examination for the selection of traffic apprentices from the staff; after three years training he was attached to the Goods Manager's staff in London. In 1930 he was appointed a supervisor at Kings Cross Goods Depot, and in 1933 returned to the Goods Manager's Office to take charge of the Tenancy Section, but in the following year he went to Liverpool as Assistant to the District Goods Manager. When the Goods Manager's Development Section was inaugurated in London in 1936 he was selected to take charge of this new work. He was appointed Assistant to District Manager, Nottingham, in 1939, but immediately before the outbreak of war, was loaned to the Ministry of Food as Chief Transport Officer of the Potato Division. The company secured his release in 1940 and after returning to Nottingham, he was appointed Assistant District Goods & Passenger Manager there in the next year. Mr. Kindon was appointed Assistant London City Manager in 1946 and in November of the following year took up the position of London Suburban District Goods Manager; he became District Goods Superintendent, London Suburban, when the post was redesignated in April, 1950. Mr. Kindon has been Acting District Passenger Superintendent, Sheffield, since August.

Mr. W. G. Thorpe, Trains Assistant to the Divisional Operating Superintendent (Western) Liverpool Street, Eastern Region, who has been appointed as District Operating Superintendent, Leeds Central, entered the office of the Divisional General Manager, L.N.E.R. (N.E. Area), at York in 1927 and was appointed a traffic apprentice in 1934. He was promoted Assistant Yard Master, Whitemoor, in 1938, and Assistant to the District Superintendent, Cambridge, in 1940; he became Chief Controller, Cambridge, in that office in 1941, and Assistant to the District Superintendent, Darlington, in 1942. Mr. Thorpe became Chief Controller (Eastern Section) to the Superintendent, Liverpool Street, in 1943, and after acting as Assistant District Superintendent, Lincoln, was appointed Chief Controller (Western Section), Liverpool Street, at the end of 1945. In 1947 he was appointed Assistant District Superintendent, Leeds, and in September, 1948, returned to London as Trains Assistant to the Operating Superintendent (Western Section), Liverpool Street.

PRESENTATION TO MR. G. MORTON

At a luncheon attended by past and present members of the Railway Executive Accountants' Committee presided over by Mr. C. R. Dashwood, Chief Accountant, Western Region, and former Chairman of the Committee, a presentation was made to Mr. George Morton, who, as recorded in our October 6 & 13 issue, has retired from the position of Chief Financial Officer, Railway Executive. In making the presentation, which took the form of a gold wrist watch for Mr. Morton and a diamond ring for Mrs. Morton, Mr. Dashwood referred to Mr. Morton's accounting and personal qualities, and congratulated him on the way in which he had carried out his responsibilities as Chief Financial Officer to the Railway Executive. Tributes were also paid by Mr. V.

Radford, Chief Financial Officer, Railway Executive, Mr. L. C. Hawkins, Member London Transport Executive, and present and former accountants, to which Mr. Morton replied suitably.

Mr. Gerald Collingwood, Managing Director of Vulcan Foundry Limited and of Robert Stephenson & Haworths Limited is leaving Great Britain on a visit to Australia on January 9. Mr. Collingwood is Chairman of the Locomotive Manufacturers' Association Internal Combustion Group.

We regret to record the death at the age of 85 of Mr. Lincoln Chandler, a former Managing Director of the Metropolitan Carriage & Wagon Finance Company.

Mr. P. C. Sharp and **Mr. D. S. A. E. Jessop**, Directors of the Brush Electrical Engineering Co. Ltd., have joined the board of Brush Coachwork Limited, Loughborough.

Mr. J. C. Twinberrow is retiring on December 31 from the position of Manager of the Publicity Department, Babcock & Wilcox Limited, to take up an appointment as Secretary of the Boiler Availability Committee. He will be succeeded by Mr. G. M. C. Peacock.

We regret to record the death on December 10, at the age of 54, of the Rt. Hon. Oliver Stanley, M.C., M.P., Opposition front-bencher in the House of Commons. He became Minister of Transport in 1933 and remained in that office until 1934, when he transferred to the Ministry of Labour. During his period of office as Minister of Transport, Mr. Stanley was responsible for the passage of the Road & Rail Traffic Act, 1933.

The board of Imperial Chemical Industries Limited has announced that Lord McGowan has decided to relinquish his position as Chairman and to resign from the board at the end of the year. Mr. John Rogers, Deputy Chairman, has been appointed to succeed Lord McGowan as Chairman. Lord McGowan has accepted the position of Honorary President of the company.

We regret to record the death on December 12, at the age of 59, of Major R. L. Green, A.M.I.Mech.E., European Manager of the American Locomotive Export Co. Inc. He was educated at Liverpool Institute and served his apprenticeship with the Mersey Engine Works. After considerable experience in the coal tar and petroleum industries, he joined the American Locomotive Company as Chief Engineer in the United Kingdom and became European Manager in 1945.

Mr. W. Bann, Assistant to District Goods Superintendent, Manchester, Eastern Region, who retired on November 30, joined the Great Central Railway in the Office of the Goods Manager, London, in 1911. After serving in the Forces Mr. Bann took up an appointment with Thompson McKay & Company, Manchester, in 1919, as Assistant to the Manager, and when the L.N.E.R. absorbed this firm in 1926 he was appointed Assistant to the District Goods Manager. From 1948 until 1949 Mr. Bann acted as Assistant District Passenger Manager, Manchester, Eastern Region. A presentation to Mr. Bann on behalf of his colleagues and friends was made on November 30 by Mr. H. P. Aggleton, District Goods Superintendent, Manchester.

British Diesel Locomotive Industry Productivity Team Report

Luncheon meeting to inaugurate action on its recommendations

The Internal Combustion Group of the Locomotive Manufacturers' Association of Great Britain held a luncheon at the Dorchester Hotel, London, W.I., on December 13 for the purpose of starting action on the report of the Diesel Locomotive Industry Productivity Team on its visit to the United States of America. The report was the subject of an editorial article in our last week's issue.

Mr. Gerald Collingwood, Chairman of the Internal Combustion Group of the Locomotive Manufacturers' Association, presided, and Mr. G. R. Strauss, M.P., Minister of Supply, was the principal guest.

Mr. Collingwood, after welcoming the Minister, said that each productivity team sent to America went as an independent body to study production methods and report its findings and recommendations. He congratulated the team on having submitted an excellent report and said that a debt of gratitude was due to those in the United States who had shown their plants and production methods to the team.

The report raised many problems which would call for discussion and action at all levels in the British diesel locomotive industry. There was a wide difference between some of the works the team had visited in America, where there was a large home market, with consequent long runs of similar types to build, and British works, which had grown up to meet the many varied types of diesel locomotives required by markets of the world.

Arrangements were in hand for a conference to be held in February to consider the report in detail. It would be attended by representatives from all levels in the industry who would be split into discussion groups or working parties to

deal more expeditiously with all sections of the report. The recommendations received from these working parties would then be dealt with individually by member firms and then by the group as a whole. Action had already been taken by some individual firms. In his own works, staff members of the team had seen to it that no time was wasted in applying labour- and time-saving devices which they had noted.

Mr. G. R. Strauss, after implementing the team on its report, said that, in the spheres of standardisation, unification and unit construction much had been done, but there was still a great deal which remained to be undertaken. Great credit was due to the industry for what it had achieved in these directions. The problems to be faced in Great Britain and the United States were different. American manufacturers had the advantage of turning out standard products, whereas those in the United Kingdom had to meet the demands of many and diverse customers.

Colonel I. A. Marriott, the leader of the team, said that his companions on the visit had differed so widely in age, education, training, experience and positions held in the industry that at the outset he had not thought that it would be possible to submit a unanimous report. He had told the team from the beginning that he did not feel that it was necessary that the report should be unanimous. It was more important that each member should report honestly on what he saw and give his opinion arising from such observations. He had been surprised to discover that the findings of all the members coincided without any member having to modify his views.

Sir Vincent Tewson, General Secretary of the Trades Union Congress, suggested

that an abbreviated form of the report might be prepared which would be more suitable for distribution to all sections of the people affected by the recommendations. The Anglo-American Council on Productivity was proud of the work that the team had done and of the report which had resulted from its very arduous labours.

Mr. John Alcock, past Chairman of the Internal Combustion Group, thanked the Minister for attending the luncheon and the guests who were supporting the locomotive industry at the inauguration of the production drive. No effort would be spared in putting it into effect. The Minister had launched a new production drive for the most virile industry in Great Britain today.

Among those present were:—

Messrs. J. F. Alcock, R. R. Alexander, R. Arbuthnott,

K. C. Banks, Rex Bate, W. B. Beard, G. W. C. Birdsell, G. H. Birkenhead, R. T. Bolter, Kenneth J. Burton,

J. E. Chadbund, Gerald Collingwood, A. T. Cooper, L. G. Copstake,

L. T. Dawes, Alvin Dodd,

T. Fernand, L. G. Ford,

Brigadier S. G. Galpin, Messrs. A. T. Gardiner, T. Greenwood, D. S. E. Gudgin,

D. W. H. Hadfield, J. Hadfield, E. C. Happold, G. T. Hart, A. L. Harris, H. Holt, W. G. Hornett, E. P. Hubbard, Lt-General Sir Thomas J. Hutton,

C. E. Kelly, Sir Norman Kipping, Messrs. H. G. Knight,

L. Lee, Alex C. Low,

Sir Lynden Macassey, Mr. A. Macdonald, Colonel I. A. Marriott, Messrs. N. McCallum, A. Nicholl, H. R. Nicholas,

W. T. Peckett, W. R. Prehn,

Sir Alexander Ramsey, Messrs. R. A. Riddles, A. R. Robertson, Sir Archibald Rowlands,

Messrs. L. H. Short, H. Sleightholme, H. Smith, W. A. Smyth, F. C. Souster, G. R. Strauss, Major-General G. S. Szlumper,

Sir Vincent Tewson, Messrs. H. D. Thonis, N. E. Tildesley, F. Turner, W. O. Twist,

J. W. Vaughan, Arthur Veysey,

C. C. H. Wade, R. St. J. Walker, H. Wilmot, A. R. Wright.



Members of the Locomotive Manufacturers' Association Internal Combustion Group and guests at the luncheon on December 13

Institution of Railway Signal Engineers

Annual dinner and dance

The annual dinner and dance of the Institution of Railway Signal Engineers was held at the Rembrandt Hotel, London, on December 8, with the President, Mr. F. Horler, in the chair, supported by Mr. S. Williams and Mr. T. S. Lascelles, Vice-Presidents; Messrs. H. H. Dyer, F. L. Castle, A. Moss, and R. Dell, past Presidents; Members of the Council: Mr. J. C. L. Train, Honorary Member; Mr. G. J. Dickin, Honorary General Secretary; Mr. B. Reynolds, Honorary Treasurer; and Mr. W. H. Challis, Honorary Secretary, General Purposes Committee, responsible for the arrangements.

The principal guests were Lord Hurcomb, Chairman of the British Transport Commission, and the Hon. Pamela Hurcomb, and Mr. J. S. Wills, President of the Institute of Transport, and Mrs. Wills. Others present included Messrs. W. J. A. Sykes, Assistant Electrical Engineer, Southern Region; S. E. Parkhouse, Chief Officer (Operating) of the Railway Executive; H. P. Middleton, Honorary Secretary, Institution of Engineering Inspection; and Dr. E. Szekely, formerly engaged in signal engineering in Hungary.

Overseas members were represented by Mr. H. J. Guthrie, Signal & Electrical Engineer, Cúras Iompair Éireann; Mr. I. B. Bose, Signal Engineering Department, East Indian Railway; and Mr. L. W. H. Lowther, until recently Honorary Secretary of the Institution's Indian Section.

Lord Hurcomb's Speech

Lord Hurcomb proposed the toast of the Institution. Part of his speech, dealing with the policy of the Commission in the matter of the participation by the Staff of nationalised transport undertakings in public discussions, was commented on editorially in our December 15 issue.

There was something, however, that he considered to be more important than that such persons should be able to express their views in public, namely, that anyone in their organisation, whatever his rank or grade, should feel able to submit any suggestions for developments or improvements in the knowledge that they would receive the fullest consideration from those in authority. They had to bring to bear on their problems every constructive idea that might contribute to the progress and welfare on which they all depended.

The organisation of British Railways had been deliberately devised so as to enable them to concentrate the best technical ability and experience on the many problems which were common to the railway system, and in that way they hoped to achieve progress. The Commission had accepted the recommendations of Mr. J. C. L. Train to form a separate signal and telecommunications organisation with an independent engineer at the head of it in each Region and they would agree that this marked a new achievement in the status of the signalling profession and the importance of its work.

Lord Hurcomb also referred to the great progress made since the days of the single-needle and Morse telegraphs and of the hopes signal engineers had entertained after the war that development and modernisation would go ahead as fast and as far as ingenuity and enthusiasm would carry them. They could only regret the effects of the general economic requirements of the country in this matter. During 1949 they spent large sums on ordi-

nary additions and improvements to the signalling system. The new signalling for the London-Shenfield electrification had cost about £1,500,000 and the work from Bricklayers Arms to Coulsdon was estimated to cost about the same. These were very large sums, but only by adopting such schemes could the present-day intensive services be operated to requirements with almost complete safety. In 1949 about one-eighth to one-seventh of the total expenditure on maintenance and renewals of ways and structures was spent on signals, telegraphs, and telephones, out of their own resources, much of it essential to conditions of operation, but much also resulting from the high standard of safety called for.

He was, however, confident that they would overcome their difficulties, and at no distant date be gathering the fruits of their technical reorganisation and plans for standardisation of methods and equipment. The full reward would only be reaped after some years, but they would soon be experiencing appreciable benefits from the work of those who had been given the task of unifying their railway system.

Mr. F. Horler, President, responding, said that they were glad to hear the reassuring statement made by Lord Hurcomb and on behalf of the Institution thanked him for what he had said. During the last few years one of the chief endeavours of the Council had been to promote the dissemination of a knowledge of signalling principles, particularly among

those who were engaged in signal engineering work but for some reason not eligible for membership of the Institution, and he wished to say that the Council appreciated the steps taken by the Railway Executive to recognise in a practical way what the Council had been doing.

Speaking of the summer meetings he expressed the appreciation they all felt at being among such good friends in Dublin and their thanks to the management of Cúras Iompair Éireann for the hospitality accorded to them. They had been equally well received by the signal and operating officers of the Eastern Region when they inspected the new signalling on the Shenfield route.

Mr. S. Williams, Vice-President, proposing the toast of the visitors, said that Lord Hurcomb had been associated with telecommunications and transport for many years and had been President of the Institute of Transport some years ago. He knew what signalling stood for, not only on the railway, but on the road, and Mr. Williams appealed to him to take a serious view of recent power cuts which left road traffic lights without any auxiliary supply.

Mr. J. S. Wills, President, Institute of Transport, replied.

Mr. T. S. Lascelles, proposing the toast of the overseas members, referred specially to the kindness received from Mr. Guthrie and his colleagues on the occasion of the Dublin meeting, and to that of their Continental members in coming to read papers before them in London. He also referred to the progress made by some of the overseas sections as well as to the difficulties experienced by members in other parts of the world.

Mr. Guthrie replied.

De-Icing Conductor Rails

Experimental use of thermostatic control by the London Transport Executive

At the beginning of 1950 the installation of conductor rail de-icing machines on all open sections of London Transport railways was completed. The work, spread over the previous three years, involved the manufacture and installation of 811 of these machines, 215 of them on new or extended lines and the remainder on existing lines.

This form of de-icing machine, invented by a member of London Transport engineering staff, had been the subject of extensive experiment over a period of eight years, as conclusive results could be obtained only during the severest weather conditions. As now installed, the device consists of an 18 in.-long metal bath inserted in a gap in the conductor rail, to which it is connected by a steel sole plate; the current is carried across the gap through a copper bar on the underside of the machine. A spring-mounted rubber roller inside the bath can be raised sufficiently to make contact with the collector shoes of passing trains. With the roller in this position, anti-freeze solution from the bath is transferred to the shoes which spread a continuous film of it along the top surface of the rail, thus preventing the formation of the ice crust which would otherwise interrupt the transmission of current from the rail to the shoes.

The spread of fluid obtained from a bath is determined by the number of shoes passing over it, and under continuous operation traces of fluid may eventually be deposited by the shoes over distances up to a mile from the bath. To provide a

continuous coating of fluid along the rail in a few hours the baths are normally spaced at intervals of about a quarter-of-a-mile. Local conditions, such as gradients and stopping points, are taken into consideration in siting the machines, to give maximum protection at places where stalling is most likely to occur.

When icy conditions are forecast, the machines are brought into use during the early evening, ensuring an even distribution of the liquid before traffic ceases for the night. Providing they are switched on at least two hours before cessation of traffic, the amount of solution spread is sufficient to prevent the icing up of the conductor rail before traffic begins again some six hours later. In normal weather the machines are switched off after traffic begins the following morning, but in very severe conditions they may be kept in use continuously.

The baths each hold about ½-gal. of the anti-freeze solution and, when in full use, are topped up by hand once a day. Until now they have been switched on or off by hand, the operator using a special wooden-handled spanner for the purpose, but an experimental thermostatically-controlled bath has recently been installed on the District Line at Barons Court. This bath is automatically switched on when the temperature drops to 36°F.

By the use of de-icing baths it is hoped eventually to dispense with "sleet trains" which have hitherto sprayed anti-freeze liquid on the conductor rails. This method

has several disadvantages, amongst them the necessity for maintaining many such sleep trains ready for instant use throughout the winter and for keeping current rails alive during non-traffic hours, often at short notice, thus interfering with programmed engineering works. In addition, in severe weather, it is not always possible to cover the whole of the line in time to prevent trouble arising through ice formation on the conductor rail.

E.C.E. Review of Steel Prospects

The Steel Committee of the Economic Commission for Europe held its seventh session in Geneva from November 27-29. Delegates attended from sixteen countries to consider prospects, after examining European iron and steel production plans and reviewing the probable 1951 supplies of raw material. The achievement of planned increases of about 21 per cent. in European pig-iron production, and of 14 per cent. in crude steel over 1950 is not expected to meet insuperable difficulties over the supply of raw materials, assuming that three conditions are met, capacity production of coke, iron ore and scrap, a satisfactory flow of trade in these commodities, and their rational use.

In calling for maximum output and economy in use, the delegates emphasised that local shortages might arise, a risk inherent in the situation where these raw materials are scarce and have to be traded between twenty-four European iron and steel producing countries, each more or less dependent on imports for some at least of its requirements. International action is urged to ensure adequate supplies, and the Coal Committee is asked at its December meeting to seek means for achieving a satisfactory level and pattern of trade in coke and coking fines. At the same time the Panel of Experts on scrap is to be re-convened to promote increased supplies.

The countries of Europe, not counting the Soviet Union, are expected to produce 52,000,000 metric tons of pig-iron and 69,000,000 tons of crude steel during the forthcoming year, which compares with some 43,300,000 pig-iron and 60,400,000 crude steel estimated for 1950. During the meetings, modifications were made in estimates of coke requirements; on the basis of the new figures a statement will be prepared for the Coal Committee, whose attention is drawn to the seriousness of a shortage of coke supplies.

The Steel Committee last Spring joined with the E.C.E. Transport Committee in urging more even distribution of orders for railway rolling stock and equipment, especially advising against pre-war practices of placing costly orders during periods of prosperity and high prices and cutting down purchases during periods of slump. They agreed to continue their interest in the problem to achieve a more rational placing of such orders in the interests of economy as a whole.

NICKEL PRICE INCREASED.—The International Nickel Company of Canada, and its associated companies, the International Nickel Company, Inc., U.S.A., and the Mond Nickel Co. Ltd., in the United Kingdom, announce that their prices for refined nickel are being increased immediately. The Mond Nickel Company is raising its price in the United Kingdom to £406 a ton delivered works.

Questions in Parliament

Hotels Executive

Sir Austin Hudson (North Lewisham—C.) on December 11 asked the Minister of Transport if he would give an assurance that the first periodical independent inquiry into the operation of the B.T.C. would include the Hotels Executive.

Mr. Barnes: I should expect the inquiry to cover all the B.T.C. Executives.

Sir Austin Hudson: Does the Minister think it will have been possible to wind up this Executive by then? It has very little to do.

Mr. Peter Thorneycroft (Monmouth—C.): When will the inquiry take place?

Mr. Barnes: The general indication given by the Lord President of the Council was "periodically"; at some period of approximately seven years.

Railway Freight Rebates

Mr. Percy Morris (Swansea West—Lab.) on December 14 asked the Minister of Transport whether he was now prepared to make regulations under Section 87 of the Transport Act terminating the Railway Freight Rebates Scheme and winding up the Railway Freight Rebates Fund.

Mr. Alfred Barnes, in a written answer, stated: I am making regulations terminating, as from December 31, 1950, as respects the B.T.C., the system of rebates provided for by the Railway Freight Rebates Enactments, 1929 to 1943, and providing for the winding-up of the Railway Freight Rebates Fund and for payment of the balance standing to the credit thereof to the Commission. The regulations will also provide that the principal of and the interest on outstanding Reicates Stock shall become a B.T.C. liability. I have received assurances that, from January 1, 1951, to the date when a Charges Scheme governing the Commission's Railway Merchandise Charges comes into force, payment of the rebates on milk and livestock traffic will be continued, on a voluntary basis, at the present rate of 12½ per cent. Any question whether the future charges under the charges scheme should reflect rebates which have been allowed in the past is one for determination by the Transport Tribunal when considering the draft scheme. Neither the making of the regulations nor the continuance of the rebates on milk and livestock should be regarded as prejudicing the position before the tribunal of either the industries which have benefited from the scheme, or of the Commission.

Steel Corporation Appointments

Mr. W. W. Hamilton (West Fife—Lab.): On December 11 asked the Minister of Supply if he would publish the records of conversations which took place between himself and members of the Steel Federation relating to appointments to the Steel Corporation.

Mr. George Strauss (Minister of Supply): The record of the meeting I had with representatives of the Federation on July 18 has already been published. The only other discussion I have had with the Federation about these appointments was on July 3, when I invited them to submit names of people in the industry considered suitable. The Federation's reply to this invitation was deferred until the meeting.

Lancing Works

Brigadier O. L. Prior-Palmer (Worthing—C.) on December 14 asked the Minister of Labour what steps he was taking to find employment for workers dismissed from the Lancing Railway Works on reaching the age of 65.

Mr. George Isaacs, in a written answer, stated: In September, nine men over 65 became redundant; of these, one man, aged 69, was placed in employment as a handyman painter. The local employment exchange will do what it can to help any workers who apply.

Uganda Railway Extension

Mr. John B. Hynd (Sheffield, Attercliffe—Lab.) on December 13 asked the Secretary of State for the Colonies how the new Uganda railway extension from Kampala to Fort Portal is being financed.

Mr. George Griffiths: No decision has been taken to extend the railway to Fort Portal. It is, however, proposed, subject to the approval of the Uganda Legislative Council and the East African Central Legislative Assembly, to extend the railway some 50 miles from Kampala to Mityana.

Staff & Labour Matters

Railway Wage Claims

The Minister of Labour last week decided to appoint a court of inquiry to adjudicate on the claims of the three railway unions. The court's recommendations will not be binding on the parties. The chairman is Lord Porter, a Lord of Appeal; and the other members are: Colonel H. C. Smith, Deputy-Chairman of the Gas Council; Mr. A. J. Espley, former Managing Director of Timothy White's; and Messrs. Lincoln Evans and J. Crawford, both members of the General Council of the T.U.C.

Mr. Figgins' Views

Writing in last week's issue of *The Railway Review*, Mr. J. B. Figgins, General Secretary of the N.U.R., states: "It was with amazement that we heard the representative of the Railway Executive intimating that unless certain conditions were accepted, the Executive would have no alternative but to withdraw their wage and salary offer in its entirety. This procedure was something which we had never hitherto experienced, not even in the days of the private companies. The membership would have considered your negotiators had failed in their elementary duty had they not immediately have vigorously protested against this new dictatorship. It was a challenge to the fundamental principles of trade unionism."

"No self-respecting trade union," he continues, "could tolerate such dictatorship. If we were to permit even a nationalised employer to make obligatory of acceptance conditions of employment, it would be equivalent to the acceptance that the employer had the right to impose not only conditions but wage and salary rates as well. The whole system of collective bargaining was here at stake. It was imperative to fight for the preservation of this principle of free collective bargaining, even should it involve some delay in the commencement of negotiation."

Use of Negotiating Machinery

"It is for the Railway Executive to utilise the machinery to which they have been parties for almost 30 years. They have no right to say that they cannot be ultimately faced with a situation where the conditions are relegated to separate discussions divorced from those dealing with wages and salaries."

"In addition to the machinery of negotiation, the Executive have long availed themselves of many of the restrictions imposed on trade unions and accepted at a

period of trade depression, and they have never failed to impress on us the provisions of that machinery. If ever there was a step taken by the Railway Executive which threatened to destroy the employees' faith in consultation, this is unquestionably it."

Irish Transport Officers on G.N.R.(I.) Situation

The following resolution was passed unanimously at a meeting on December 13 of the Council of the Irish Transport Officers' Guild, which includes among its members 80 per cent. of the senior officials and executives of Coras Iompair Eireann:-

"On behalf of the members of the Guild, we express our sympathy with our colleagues and all the staff of the Great Northern Railway (Ireland) in the great anxieties they have now suffered for so long as to the future of their undertaking. From our own experience, we appreciate the problems and stresses, official and personal, which arise from such a situation, and we urge our Government to put an immediate end, by practical measures, to this unnecessary strain imposed on the G.N.R.(I.) personnel.

"We are aware that the division of our country created a major difficulty in economic operation of railway systems which were designed and built when no border existed. It appears to us in this connection that our Government is under a special obligation even in respect of the staff of the G.N.R.(I.) who are employed in the Northern province, in view of the professed intention to seek reunion of the two States. That obligation, we believe, requires demonstration of a practical interest in the welfare of all of the men who are operating a transport system which would be of even greater importance to a reunited country than it is at present.

"We think it well also to remind the public and both Governments that so-called losses and deficits on the working of railways in this country are primarily due to the requirements of public policy, and should be regarded not as ordinary trading losses which may reflect adversely on the competence of administrators and operatives, but as the net cost of providing transport services in conditions prescribed in detail by Acts and statutory orders. Railways are probably the most severely and closely regulated industry in the country. The nature and extent of their operations and equipment, the price at which their services must be sold and the condition of sale, are all prescribed under statute. Restrictive conditions originated with the grant of parliamentary powers and rights to the railways in the 19th century. The value of these powers and rights has disappeared as privately-owned motor transport has grown, but the restrictions have continued. From the viewpoint of ordinary profitable trading therefore, railways have been put in an impossible position. Railways nevertheless continue to be indispensable as ensuring basic, standby, and supplementary transport at all times, and for all types of traffic offered by the public.

"As an outstanding instance of the severity of public control over railways, we cite the position of the G.N.R.(I.) proprietors who, although now faced with an operating loss of approximately £8,000 per week, are not legally permitted of their own accord to discontinue business on any railway line they own.

"It would be injurious to the public interest that any such service should be discontinued, but to require the proprietors to continue the services irrespective of loss and without as yet even a promise of fair compensation, seems to us an injustice equivalent to forcible seizure of private property and compulsory labour on behalf of the State.

"For several years past, there has been apparent disregard by the two Governments of the warnings and advice given by transport authorities, as to the difficulties they were facing. We feel, however, that neither the Governments nor the community as a whole desire to penalise the proprietors, officers and staff of the G.N.R.(I.) Company for having engaged in the provision of essential public services, rather than in industry of a less useful and less controlled kind."

Contracts & Tenders

The 200 C.M.R. cattle wagons ordered by the Government of Pakistan, Karachi, from Siegener Eisenbahnbedarf A.G., 21b, Dreis-Tierenbach, Kreis-Siegen, I.W., Germany. (London Agents: The Stahlunion Co. Ltd., 253, Grand Buildings, London, W.C.2) are at present under the inspection of the High Commissioner for Pakistan, London.

The Tees-Side Bridge & Engineering Co. Ltd., Cargo Fleet, Middlesbrough, is building the following wagons for British Railways: 9 55-ton flat armour-plate wagons; 4 55-ton trestle trolley wagons; 75 50-ton rail wagons; 200 42-ton bogie bolster wagons; and 600 16-ton mineral wagons.

The Egyptian Government is inviting tenders for 12 third class bogie carriages to Specification No. 423; the date of the adjudication is February 6, 1951, in Cairo.

Notes and News

Mechanical Draughtsmen Required.—The London Transport Executive requires two mechanical draughtsmen, between 27 and 30 years of age, for the office of the Plant Engineer (Railways) in the department of the Chief Mechanical Engineer (Railways), Acton. See Official Notices on page 587.

Dean & Dawson Chelmsford Office.—The travel bureau and the departmental store of J. G. Bond Limited, High Street, Chelmsford, is now staffed and operated by Dean & Dawson Limited. The telephone number is Chelmsford 3636 and the telegraphic address "Bonds Chelmsford."

Thos. W. Ward Dividend.—The directors of Thos. W. Ward Limited recommended at the ordinary general meeting on October 27, a final dividend of 10 per cent., less tax, on the ordinary share capital, making, with the interim dividend of 5 per cent., less tax, 15 per cent. for the year ended June 30.

Colvilles Limited.—In addition to maintaining the interim ordinary dividend for 1950 at 3 per cent. the directors of Colvilles Limited are to repeat the special interim payment of 5 per cent. made in each of the past three years. The final dividend for 1949 was 5 per cent. and made a total for that year of 13 per cent.

Peruvian Corporation Limited.—The net revenue for the year ended June 30, 1950, of the Peruvian Corporation Limited railways was £266,332, against £261,347 for the previous year, and operating expenses were £247,882 (£214,132). The net profit from all activities and available for debenture service is £259,042 (£129,346). To this must be added £79,505 brought forward from last year, making a total of £338,547. Coupons paid in April and December, 1950 (in respect of 1944), of £3 per cent. (gross) each, together absorb £236,814 (gross), leaving a balance of

Bulk Transport of Chemicals by Rail



Tank wagon built for Murgatroyd's Salt & Chemical Co. Ltd. for the transport of caustic soda made at the new electrolytic caustic soda and chlorine plant at Elworth near Sandbach

£101,733 of net revenue to be carried forward for debenture service. The debit balance brought forward was £3,246,912. After provision for debenture service for the year accrued but tax accrued to June 30, 1950, the debit balance carried forward is £3,421,876.

Best Kept Eastern Region Stations.—The judges of the Eastern Region, British Railways, best kept stations competition for 1950 travelled over 2,000 miles and examined 282 stations, and have commented on the very high standard of gardening proficiency shown by station staffs. Their choice for the three special awards finally fell on Aldeburgh, Brundall, and Long Stanton Stations.

Tube Investments Capital.—An issue of £5 million 4½ per cent. redeemable cumulative preference shares of £1 each is proposed by the directors of Tube Investments Limited. The present issued capital is just over £4 million and total assets exceed £41 million. Additional capital is required to meet substantial capital expenditure for the development and re-equipment of the factories and to provide further working capital. Treasury consent has been obtained. It is proposed to increase the authorised capital by £10 million though no additional issues are at present contemplated. The two existing first preference stocks are to be consolidated into one.

Western Region First Aid Movement.—The presentation of first aid awards for the years 1948, 1949, and the early part of 1950 was held recently in the board room, Paddington, when Mr. K. W. C. Grand, Chief Regional Officer, presided and made the presentations. Mr. W. P. Allen, Member of the Railway Executive, and Mr. H. Adams Clarke, Chief Officer for Staff & Establishment, were present, while the Western Region was represented by Mr. H. G. Bowles, Assistant Chief Regional Officer, Mr. G. Matthews, Operating Superintendent, Mr. C. Furber, Commercial Superintendent, Dr. C. T. Newnham, Regional Medical Officer, Mr. W. N. Pellow, Motive Power Superintendent, Mr. S. G. Ward, Assistant Regional Staff Officer, Mr. A. Lane, Chief of Police, South Western Area, and Mr. P. Anstey, Ambulance Secretary. Mr. Grand said that Western Region staff had gained 12 class 1 awards and 18 class 2 awards. He was glad to make the presentations be-

cause they really stood for something that had been done, something quite exceptional, done in the ordinary run of events. Mr. Allen said the first aid movement was a service rather than an obligation or a duty. Those taking part gave their service voluntarily to assist their fellowmen in time of need.

Ericsson Telephones Limited.—By way of capitalisation of profits Ericsson Telephones Limited propose to issue to ordinary shareholders bonus shares in the ratio of one 5s. ordinary share for eight ordinary stock units held. After issue shares will be converted to ordinary stock ranking for dividends.

Greece-Jugoslavia Rail Connections.—The (Athens) Salonika-Belgrade main line (the route of the "Simplon-Orient Express") and a secondary line from Salonika to Bitoli, Jugoslavia, were reopened to traffic on November 27. Both railways were damaged during the Greek civil war, but have been repaired.

L.M.R. Christmas Train Service.—The complete Christmas extra trains programme of the London Midland Region includes 700 additional main-line expresses between December 21 and 27. Nearly half of these will run to and from Euston and St. Pancras and the Midlands and North. All large towns in the L.M.R. will also have their quota of Christmas specials, and at Euston on December 13 it was announced that the full programme will enable the Region to deal with 500,000 extra travellers.

La Guaira & Caracas Railway Results.—The net profit for the year ended December 31, 1949, of the La Guaira & Caracas Railway Co. Ltd., after deducting £18,700 for 5 per cent. debenture interest and £7,916 tax and debenture stock redemption reserve, totalled £2,788, which, with the balance from 1948 and exchange profit, gives £23,635 unappropriated balance. An agreement has been signed for the joint sale of its property and that of the Bolivar Railway Company to the Venezuelan Government. After provision of a sum in favour of the Venezuelan Government for administration of the Bolivar Railway since it was taken over in 1948 the gross amount receivable is about £1,000,000. The directors were authorised to settle liabili-

ties in connection with the sale and provision for these will have to made out of the gross sum receivable. The full extent of these liabilities is not yet known, but it is improbable that balances eventually available will exceed the figures on which authority to effect the sale was based.

Steel Production Again a Record.—Steel production in this country in November reached the highest rate achieved so far. During the month it was at an annual rate of 17,472,000 tons, and this compares with an annual rate in the previous best month, March, 1950, of 17,147,000 tons. The previous best November was last year when the rate was 16,358,000 tons. Orders for steel for the home market fell in the first part of this year, but they have increased sharply in recent months, though there is so far little evidence of expanded programmes for defence making a large demand on steel supplies. Steps are being taken to limit steel exports. Maintenance of steel production at a high level can be greatly assisted by all steel using firms returning their scrap as rapidly as possible.

Roller Bearings in Railways.—A pre-view of the documentary film "Roller Bearings in Railways," produced by British Timken Limited, was held at the Savoy Hotel, London, W.C.2, on December 19. The guests were received by Mr. S. M. Bennett, Director, and Mr. C. R. D. Tuckey, General Sales Manager, British Timken Limited. The film, which was introduced by Mr. Bennett, depicted the manufacture of Timken roller bearings and axleboxes in all phases of production, and included machining, grinding, heat-treatment processes, methods of inspection, and assembly. Also included in the film was the assembling of Timken roller bearings and axleboxes in the British Railways "A1" class locomotives built at Doncaster in 1948.

British Railways Amateur Boxing.—British Railways will hold their third annual amateur boxing championships this winter under the auspices of the Railway Executive Amateur Boxing Association. These championships are open to men in all grades and the preliminary rounds are fought out in the Regions. The quarter-finals will be held at Liverpool and York.



Mr. K. W. C. Grand, Chief Regional Officer, Western Region, presenting awards in the board room at Paddington for first aid work (see paragraph above)

OFFICIAL NOTICES

DRAUGHTSMEN (Mechanical), Senior and Junior, preferably with permanent way experience, for part of Railway Engineers in S.E. and Central London. Apply stating experience to Box 925, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

DIRECTORY OF RAILWAY OFFICIALS & YEAR BOOK. A useful reference book for railway officers, engineering firms, and all who do business with railways. The only Directory which enables one to find the right railway and the right officer at the right moment. Issued July each year. Price 30s. net. Tothill Press Limited, 33, Tothill Street, London, S.W.1.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth 8s. 6d. by 5s. 6d. 82 pp. Diagrams. 2s. By post 5s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

in March, 1951, and the semi-finals and finals at the Royal Albert Hall, London, for the second year in succession, on April 24. A feature of the championships this year will be the inclusion of two new weights—light middle and light welter-making contests at ten weights in all. The closing date for entries is December 30. Last winter 337 competitors took part.

Scottish Region Christmas and New Year Services.—Over 60 additional Anglo-Scottish express trains are being run by the Scottish Region of British Railways during the Christmas and New Year holidays, and many relief services have been arranged for local travel in Scotland. On Christmas day there will be certain modifications in the through services to and from England and certain local train services in Scotland will be subject to alteration or suspension on Christmas day and Tuesday, December 26, as well as on New Year's day and January 2 and 3. Day, half-day, or evening excursion tickets will, where train services permit, be issued at certain stations in Scotland every weekday during the Christmas and New Year holiday period.

Canadian Pacific Railway Earnings.—At a meeting of the board of the Canadian Pacific Railway on December 11, when, as was recorded in our issue of December 15, the directors announced a 4 per cent. final dividend on the ordinary stock for 1950, figures were produced showing that net earnings from railway operations continued to show improvement over last year. Of the dividend declared, 3 per cent. is attributable to railway operations and 1 per cent. to other sources. The interim dividend was attributable to income from sources other than railway operations, and the total dividend is thus at the rate of 6 per cent., one half from each source. In recent years the declaration of the final dividend has not been made until after the close of the year to which the dividend applied. Now, however, where possible, an announcement will be made before the end of the year.

Synthetic Rubber Industry.—The need to establish a synthetic rubber industry in the U.K., even under conditions of assured world peace, was stressed by the Managing Director of the Dunlop Rubber Co. Ltd., Mr. G. Beharrell, speaking at the recent dinner of the Institution of the Rubber Industry in London. British consumption of rubber, remarked Mr. Beharrell, had risen from 18,000 to 215,000 tons since 1921. The international situation and the urge for stockpiling in the U.S.A. had

LONDON TRANSPORT EXECUTIVE require two Mechanical Draughtsmen in the office of the Plant Engineer (Railways), in the Department of the Chief Mechanical Engineer (Railways), Acton. Applicants should be of age 27 to 30 years, and should have served an engineering apprenticeship. Possession of National Certificate or an equivalent qualification would be an advantage. Experience should preferably include design of special-purpose machine-tools and other machinery, lifting appliances, steel structures and plant layout drawings, with a knowledge of stress calculations. Commencing salary up to £420 p.a. according to age, qualifications and experience, with prospects of advancement to £480 per annum, and additional increments for recognised educational qualifications. The appointment is subject to a medical examination. Upon completion of a satisfactory probationary period the selected applicant will be expected to join a contributory superannuation scheme. Applications giving full details of age, training, experience and present salary should be sent within fourteen days of the appearance of this advertisement to the STAFF OFFICER (F/EV 156), LONDON TRANSPORT EXECUTIVE, 55, Broadway, London, S.W.1. For acknowledgment enclose addressed envelope.

WANTED.—Two Locomotive Draughtsmen, one senior. Experience in diesel or electric locomotives desirable but not essential—Box 923, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Method. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 190 pages. Medium 8vo. Full cloth. Price 20s. By post 20s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

SITUATION VACANT, ENGINEERING ASSISTANT. Permanent Way Department, Central Railway, Peru. Salary from £1,000 per annum. Knowledge of Spanish essential. Apply to Secretary, THE PERUVIAN CORPORATION, LIMITED, 144, Leaderhill Street, London, E.C.3.

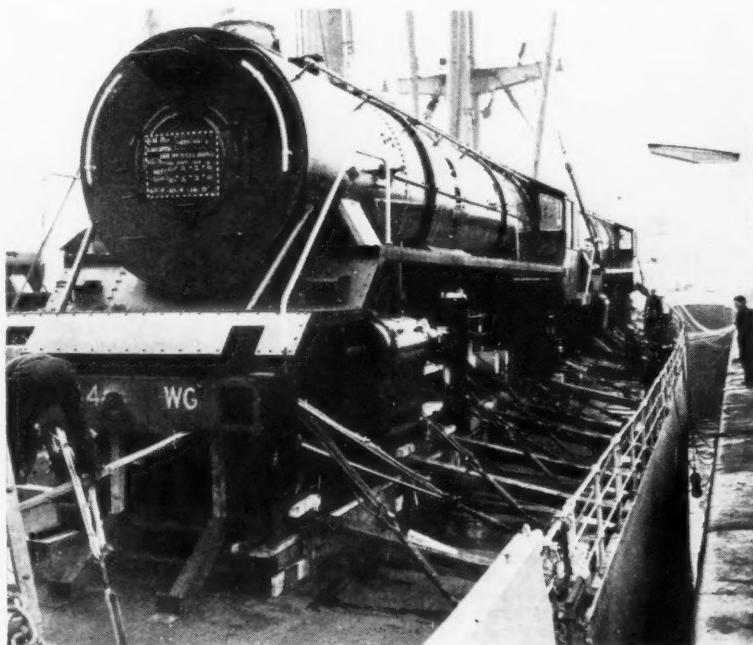
altered the whole commercial and technical problems of the industry and 1950 has seen the revival on a large scale of the synthetic rubber industry. Price levels were so high that they threatened the expansion of technical developments which would be required to maintain a reasonable adjustment between supply and demand. Technical and marketing research must be continued at the highest level.

Tube Investments Enter Canadian Industry.—Mr. Ivan A. R. Stedeford, Chairman, Tube Investments Limited, announced recently that negotiations have been completed for the acquisition by Tube Investments Limited of a substantial interest in the Standard Tube Co. Ltd., Woodstock, Ontario, Canada. The company, to be known as the Standard Tube & T.I. Ltd., has been mainly concerned in the manu-

facture and fabrication of electrically welded precision steel tubes for the Canadian market. Its operations will now be extended to cover a wide range of precision, mechanical, and pressure tubes, together with other tubular specialities. Including the provision of specialised plant a sum of nearly £1,000,000 will be involved. Tube Investments Limited now has subsidiary or associate companies in Australia, Canada, India, New Zealand, South Africa, and Argentina.

L.M.R. Orchestral and Choral Concert.—The London Midland Region (London) Orchestral Society, which is now in its 28th season, presented an orchestral and choral concert at Friends House, Euston Road, N.W.1, on Friday, December 15. The orchestra, under its Honorary Conductor, Mr. John Grindley, gave a most

British-Built Locomotives for India



Class "WG" 2-8-2 locomotives built by the North British Locomotive Co. Ltd. for the Bengal-Nagpur Railway, ready for shipment to Calcutta

successful performance of Haydn's "Farewell" Symphony and among other works were the first movement of the Beethoven Concerto for Pianoforte and Orchestra No. 3, and "Introduction et Rondo Capriccioso for Violin and Orchestra," by Saint-Saens, in which the soloists were Miss Mavis Elmitt and Miss Pauline Elmitt. The programme included a variety of songs and carols by St. Michael & All Angels, Harrow Weald, Girls' Choir. The choir was conducted by Mr. E. Daniel, and gave a most sensitive and accurate performance throughout.

Scottish Stations to be Closed for Passenger Traffic.—As from January 1, 1951, the passenger train services will be withdrawn from Killochan Station on the Ayr-Maybole-Girvan line. Passengers for Killochan will be booked to Dailly or Girvan stations from which places bus services are available. Freight train traffic and passenger train parcels and miscellaneous traffic will continue to be dealt with at Killochan Station. On the same date Cunninghamhead Station on the Dalry-Kilmarnock line will be closed for all passenger train traffic and for freight train traffic in less than truck loads. Passengers for Cunninghamhead will be booked to Kilmarnock, Dalry, Irvine, or Stewarton. Parcels and miscellaneous traffic by passenger train and small consignments of freight train traffic, which are for Cunninghamhead will, in the future, be dealt with at Montgreenan.

Tees and Hartlepools Docks Scheme.—The British Transport Commission has issued the text of a letter which it has sent to the Chamber of Shipping of the United Kingdom in reply to a resolution of the Council of the Chamber published on December 8. This resolution related, among other things, to the draft provisional scheme promoted by the Docks & Inland Waterways Executive for the Tees and Hartlepools. The General Council of British Shipping has lodged an objection to the scheme, which is based on ownership and centralised control by the B.T.C. The Commission states in its letter that the Tees and Hartlepools scheme is based on careful consideration of the facts of the particular area, in which it already owns extensive docks, and that it is already aware and has taken due note of the Council's opinion that port facilities are best provided by locally autonomous public trusts.

Lafarge Aluminous Cement Co. Ltd.—Speaking at the annual general meeting of the Lafarge Aluminous Cement Co. Ltd., Mr. John G. Kay, Chairman, said that the company had not only wiped out the effect of reductions in price last year, but had substantially improved on the trading profits; this had been due to the considerable increase in sales both at home and abroad and to the increased efficiency of the works. Cement was exported to 33 different countries and sales to the U.S.A. and Canada were double that of the previous year. It was 25 years since their works were started and the company now had reserves of £250,000 and modern works costing £500,000. The directors proposed to issue free to shareholders 120,000 ordinary shares of 5s. each in the proportion of one new share for every share held; this would raise the issued share capital to £135,000. It was also decided to distribute a final bonus of 10 per cent. on the ordinary shares and to celebrate the 25th anniversary by a special cash bonus of 10 per cent.

Railway Stock Market

International uncertainties and holiday factors have kept stock market business restricted, though the general undertone has been fairly steady, helped by a better tendency in British Funds. Fears that metal and other shortages will slow down production for the home market have dominated the industrial sections, although there was a tendency to give rather more attention to armament shares and also to shares of export trade companies. Now Marshall Aid is being suspended it is clear that many companies will have to attempt to earn more dollars; in the circumstances, it is expected that every effort will be made to provide adequate raw materials and other products for their requirements.

There has been selective demand for some industrial shares, which for one reason or another are considered to offer possibilities of higher dividends. It is not expected that in future there will be rigid limitation of dividends to those paid last year, but that in instances where profits have risen, shareholders will have moderately higher payments. The question of an increase must of course depend on many factors which have been weighed by directors. Nevertheless, the City believes that, when justified by the level of profits, more companies will now decide to make a small increase in dividends for shareholders. In the case of a company requiring additional capital, a higher dividend would of course make this easier to obtain by an issue of ordinary shares. Although the period of rigorous dividend limitation is now probably passed, virtually all leading industrial companies are expected to follow a policy of moderation and restraint and only make dividend increases when profits have moved higher.

Leopoldina stocks were again higher, but are still regarded as below their probable pay-out levels. Leopoldina ordinary was 9½, the preference stock 26½, the 4 per cent. debentures 95½, and the 6½ per cent. debentures have been active around 143. A point which is often overlooked in respect of pay-out levels for the various stocks is that payments specifically on account of dividend or interest arrears will be subject to taxation, because they represent income and not a return of capital. Leopoldina Terminal 5 per cent. debentures moved up

to 90½ and the ordinary units have changed hands around 1s. 7½d.

Great Western of Brazil were steady at 155s. and Brazil Rail gold bonds 43. San Paulo 10s. units were a little easier at 15s. 3d. United of Havana stocks again attracted a fair amount of business, but movements have been small and undecided; the 1906 debentures were 16½. Central Uruguay ordinary stock eased to 9½ on fears of further delay in the pay-out for stockholders.

As was to be expected, the Canadian Pacific dividend of 6 per cent., against 5 per cent., created an excellent impression and the assumption is that the increase would not have been made unless there were a reasonable possibility of it being maintained. There is talk of a further increase next year if the improvement in railway revenue is held; it is argued that investment income may very well yield more in future. Canadian Pacifies at 43½ at the time of going to press give an attractive yield of over 5½ per cent. on the basis of the higher payment now announced. The preference stock was 75½ and the 4 per cent. debentures 98½.

Antofagasta ordinary was 6½ and the preference stock 41. Taltal shares were 15s. 9d. and Nitrate Rail 75s. La Guaira ordinary kept at 77 and Bolivar "C" debentures were 58. Manila "A" bonds were 66 and the preference shares 6s.

Firmness was maintained in road transport shares. Lancashire Transport were 67s. 6d. at which the yield is over 7½ per cent., Southdown were 121s. 3d. and West Riding 56s. B.E.T. stock has firmed up to 495s. at the time of going to press.

Iron and steel shares were generally well maintained, and there were again only small changes in shares of companies scheduled for nationalisation. United Steel were 28s. 10½d., Stewarts and Lloyds 55s. 3d., and Dorman Long 31s. 6d.

Shares of locomotive builders and engineers held up well, although business was restricted generally. North British Locomotive were firmer at 18s. 9d., Vulcan Foundry improved to 24s. 3d., Beyer Peacock were 23s. 3d., Gloucester Wagon 15s. 7½d., and Wagon Repairs 15s. 9d. Birmingham Wagon were 30s. 9d. and Hurst Nelson 59s. 6d. at which the latter yield over 5 per cent. on the basis of last year's dividend.

Traffic Table of Overseas and Foreign Railways

Railway	Miles open	Week ended	Traffics for week		No. of week	Aggregate traffics to date	
			Total this year	Inc. or dec. compared with 1948/49		1949/50	Increase or decrease
South & Central America							
Antofagasta	811	3.12.50	£ 83,880	+ 33,870	48	£ 3,384,904	+ 110,180
Costa Rica	281	Oct., 1950	c1,015,192	+ c35,030	18	c4,361,063	+ c471,596
Dorada	70	Oct., 1950	37,409	+ 5,561	43	391,233	+ 94,355
Inter. Ctl. Amer.	794	Oct., 1950	£974,149	+ £394,917	43	£11,201,432	+ \$1,091,307
La Guaira	22½	Sept., 1950	£69,726	+ £39,529	39	£725,535	+ \$241,943
Nitrate	382	15.8.50	10,816	+ 8,656	32	£286,336	+ 6,203
Paraguay Cent.	274	1.12.50	/229,969	+ /86,539	22	/4,360,958	+ /1,211,143
Peru Corp.	1,050	Nov., 1950	£57,577,000	+ £1,083,700	22	£38,783,000	+ \$1,773,242
.. (Bolivian Section)	66	Nov., 1950	Bs.13,612,000	+ Bs.2,401,000	22	Bs. 56,586,000	+ Bs.4,428,836
Salvador	100	Oct., 1950	c87,000	+ c19,000	18	c355,000	+ c42,000
Taltal	154	Nov., 1950	£2,021,426	+ £408,947	22	£7,821,686	+ £1,641,363
Canada							
Canadian National	23,473	Oct., 1950	18,063,000	+ 2,947,000	43	150,250,000	+ 13,286,000
Canadian Pacific	17,037	Oct., 1950	12,247,000	+ 1,163,000	43	103,218,000	+ 2,895,000
Various							
Barsi Light*	167	Sept., 1950	18,540	+ 652	26	177,870	+ 1,515
Egyptian Delta	607	10.10.50	18,245	+ 1,296	28	319,911	+ 24,005
Gold Coast	536	Oct., 1950	261,844	+ 44,691	31	1,651,230	+ 35,555
Mid.ofW.Australia	277	Sept., 1950	38,775	+ 7,000	13	110,856	+ 29,391
Nigeria	1,900	Jan., 1950	502,360	+ 38,978	44	5,017,814	+ 266,573
South Africa	13,347	25.11.50	1,897,787	+ 408,690	34	57,196,071	+ 6,310,449
Victoria	4,744	Aug., 1950	1,886,505	+ 666,194	9	—	—

* Receipts are calculated at 1s. 6d. to the rupee

† Calculated at \$3 to £1